SLIDES, SPEAKER NOTES AND SOURCES

# From Dairyland to Dataland

Best planning practices for when there's no way a community could have planned for this




Robin Palm, AICP, and Sam Schultz, AICP · Village of Mount Pleasant, Wisconsin · Wisconsin state planning conference, October 8, 2026

From Dairyland to Dataland: best planning practices for when there's no way a community could have planned for this.

Sam Schultz and I are the planners at the Village of Mount Pleasant, Wisconsin, home of Microsoft's Fairwater AI data center campus, built on land that was assembled for the Foxconn deal. This version of the talk is from the Wisconsin state planning conference on October 8, 2026. An earlier version was an APA webinar in April 2026.

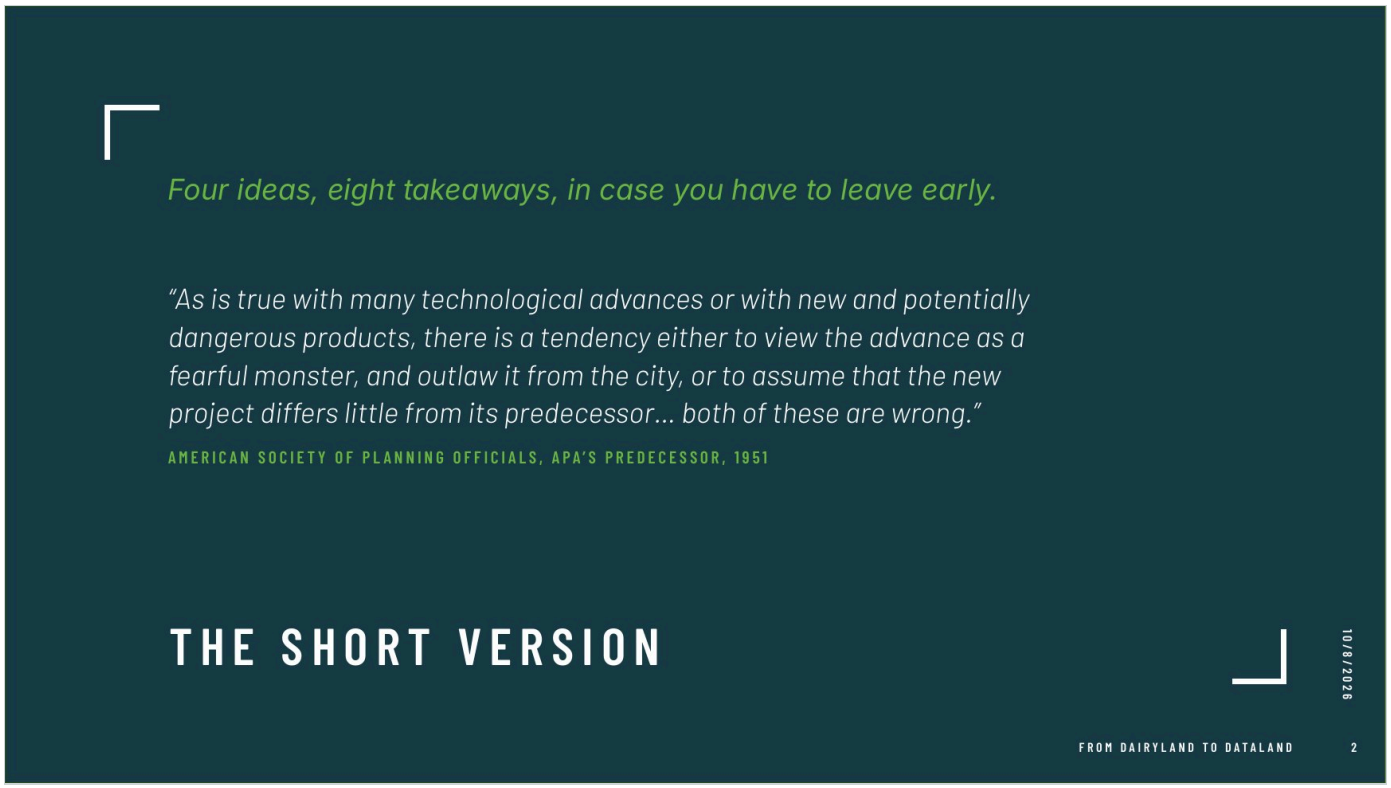
These notes are the written version of the talk. Each slide has what I said, cleaned up and trimmed, plus the extra explanation I didn't have time for on stage and links to the sources, so you can check the work and borrow what's useful.

## LINKS AND SOURCES

- Village of Mount Pleasant mtpleasantwi.gov

SLIDE 2

## The short version




Before the story, the punchline, and it's an old one. In 1951, the American Society of Planning Officials, APA's predecessor, wrote about one of the scary new technologies of its day, liquefied petroleum gas. There's a tendency, they said, either to treat the new thing as a fearful monster and outlaw it from the city, or to assume it differs little from what came before. Both of those are wrong.

Seventy-five years later, those are still the two mistakes communities make with data centers. Ban the new thing, or treat it like nothing has changed. This talk is about the third way: figure out what's actually different, and plan for that.

The next two slides are the whole talk in four ideas and eight takeaways, in case you only have five minutes. The rest of the deck earns each one.

### LINKS AND SOURCES

- American Society of Planning Officials (1951), on liquefied petroleum gas, as quoted in Zoning Practice, March 2024
- Zoning Practice, March 2024: Battery Storage (Great Plains Institute) planning.org

SLIDE 3

# What planning is for




Planning is about putting stuff together and making it work, and making the sum greater than the individual parts. Here's the talk in four ideas, with eight takeaways underneath.

First idea: decide where change belongs.

1. Find the real yes or no. That's the comp plan or the zoning map, and it may have happened years before any applicant showed up. Mount Pleasant made its big decision in the Foxconn era: the plan, the rezoning, the roads, the water. When Microsoft came, nobody needed another vote on whether that land was for big industry. If your plan is good, you shouldn't have to go back to the well. And when you do hold that vote, do it by the book. My home county in Virginia is the cautionary tale (see slide 29).

2. Know your lane. Power and water absolutely matter to planners, and we coordinate around them. But in Wisconsin the Public Service Commission decides rates and the DNR decides air and water permits. In April 2026 the PSC settled who pays for the power plants built for data centers: the data centers do, on contracts of at least 15 years. Zoning's question is narrower. Does the power or water use make this belong here rather than there?

Second idea: then make the plan mean something.

3. Fix the path before the phone rings. Trace the approvals a project would need under today's code. If there's a discretionary step after the real yes or no, fix it now, in the general code, before an application comes in. In Wisconsin an application is decided under the rules in effect when it's submitted, so once it's in, your code is locked for that project.

4. If you want something extra, ask early. Nice-to-haves belong in the development agreement, before anyone signs. Since Act 67 in 2017, a conditional use permit in Wisconsin can't be the bargaining chip. Conditions have to be reasonable and, as far as practicable, measurable, and if the applicant meets them, the permit shall be granted.

Where each one comes up: 1 in slides 14, 28 and 29; 2 in slides 13 and 53; 3 in slides 14, 16, 21 and 22; 4 in slides 24 and 27.

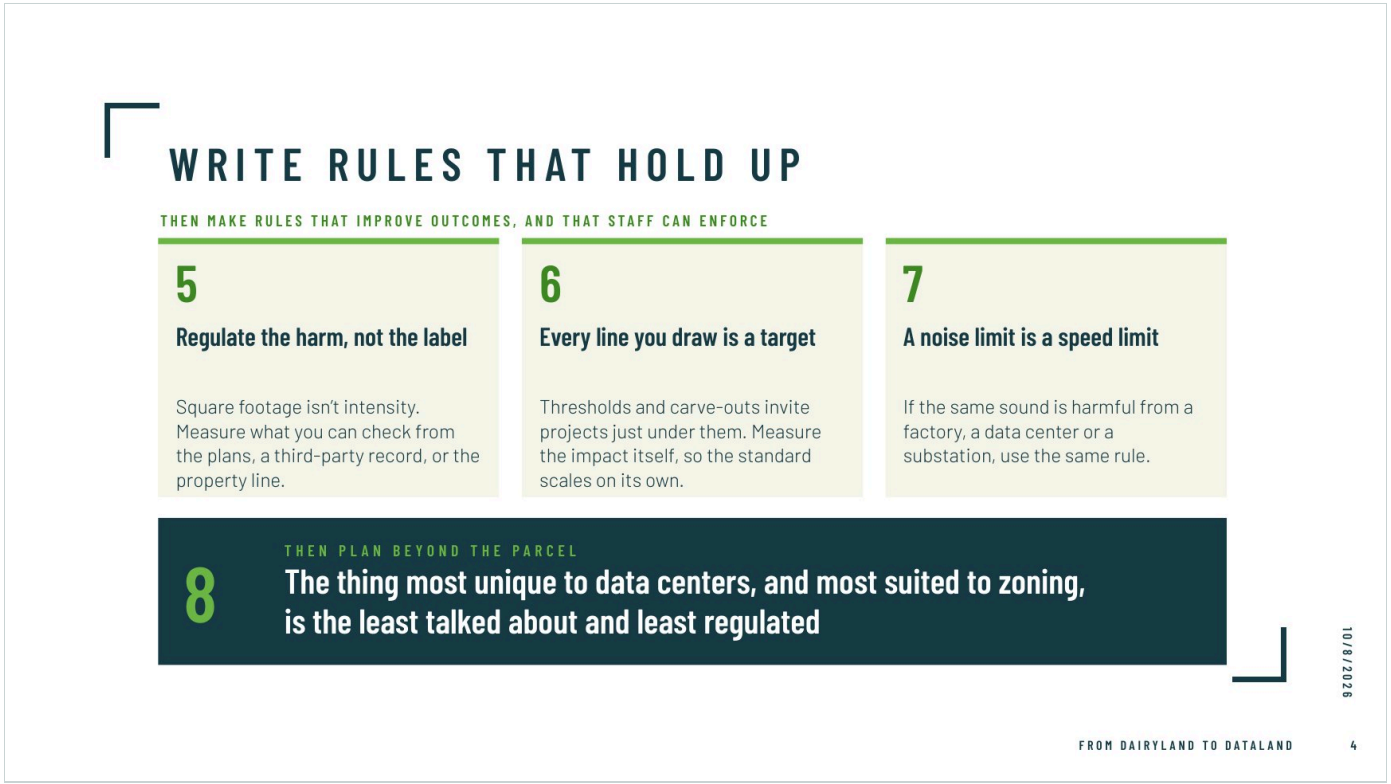
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LINKS AND SOURCES

- 2017 Wisconsin Act 67, full text (PDF) docs.legis.wisconsin.gov
- UW-Madison Extension, Conditional Uses After Act 67 (PDF) fyi.extension.wisc.edu
- Wisconsin Towns Association, vested rights under Wis. Stat. § 66.10015 (PDF) wisctowns.com
- Public Service Commission of Wisconsin, The PSC and Data Centers psc.wi.gov
- Data Center Knowledge, Wisconsin's Data Center Tariff Signals a New Regulatory Baseline datacenterknowledge.com

SLIDE 4

## Write rules that hold up




Third idea: write rules that improve outcomes, and that staff can actually enforce.

5. Regulate the harm, not the label. A data center's square footage tells you almost nothing about how loud it is. Write standards you can check from the approved plans, from somebody else's records, or with a meter at the property line. If you need the operator's cooperation to find out whether they're breaking a rule, it's a bad rule.

6. Every line you draw is a target. Tom FitzGerald, who ran the Kentucky Resources Council for nearly forty years, put it best: every time you draw a line, somebody will try to come in right under that line. So don't tier your rules by size, server space or megawatts. Measure the impact itself, and the standard scales on its own.

7. A noise limit is a speed limit. If a noise is harmful next to a data center, it's harmful next to a factory or a substation too. Put the limit in the general code and it applies to every data center, including the ones already built. That reaches what zoning can't.

Fourth idea: plan beyond the parcel.

8. The thing most unique to data centers, and most suited to zoning, is the one we talk about least and regulate least. On stage I made the room wait for this one. If you're reading ahead, it's heat (see slides 45 and 46). Codes do mention heat, usually in one line, as a nuisance to keep off the property line. Least regulated means nobody regulates where it goes.

Where each one comes up: 5 in slides 18 and 23; 6 in slides 20 and 22; 7 in slides 38 and 39; 8 in slides 47 to 50.

### LINKS AND SOURCES

- Tom FitzGerald, testimony to Louisville Metro Council's Planning and Zoning Committee, Oct. 6, 2026
- Kentucky Resources Council, data centers toolkit kyrc.org

SLIDE 5

## Robin Palm, AICP




Who? That's me. I'm Robin Palm, AICP, with nine years at the Village of Mount Pleasant as a Planner II in the Community Development Department.

Since 2021 I've been the APA Wisconsin board representative for the southeast region, which covers Kenosha, Racine, Milwaukee and several other counties.

I got my master's in urban and regional planning from Virginia Commonwealth University in Richmond in 2014. I went to grad school a little late, so if you're thinking "he's looking a little weathered for a 2014 grad," well, the last six years have been hard on everyone.

I'm Bourbon Planner on your favorite social media. I post a lot less these days, but I'm still around. And I'm known to enjoy video games.

### LINKS AND SOURCES

- Village of Mount Pleasant mtpleasantwi.gov

SLIDE 6

## Samuel Schultz, AICP



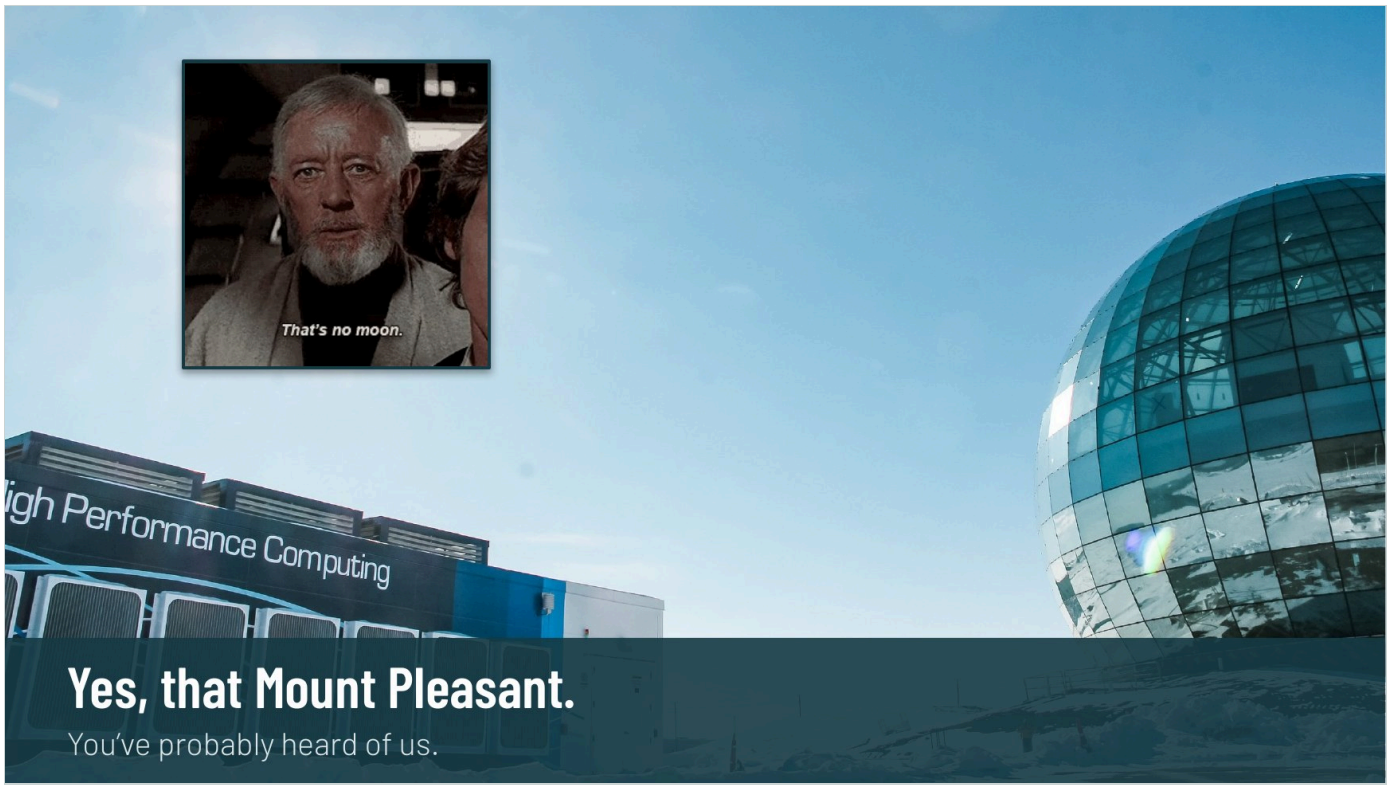

Sam Schultz, AICP, is the Village of Mount Pleasant's Community Development Director: nine years in that role (six on staff, three contracted), three years as a land use and development advisor at von Briesen & Roper, and a master's in urban planning from UW-Milwaukee (2016). He's also known to enjoy video games.

### LINKS AND SOURCES

- Village of Mount Pleasant mtpleasantwi.gov

SLIDE 7

## Who Mount Pleasant?




We're Robin and Sam, the planners from the Village of Mount Pleasant, Wisconsin.

Our bios are on the two slides before this one. Short version: I'm a Planner II, Sam is our Community Development Director, and we've each been at it in Mount Pleasant for about nine years.

And yes, that globe. That's no moon. It's the Foxconn globe, and we're that Mount Pleasant, the one you've probably heard of. If you look closely, the building on the left of the photo is signed High Performance Computing.

LINKS AND SOURCES

- Village of Mount Pleasant mtpleasantwi.gov

SLIDE 8

## Where Mount Pleasant?

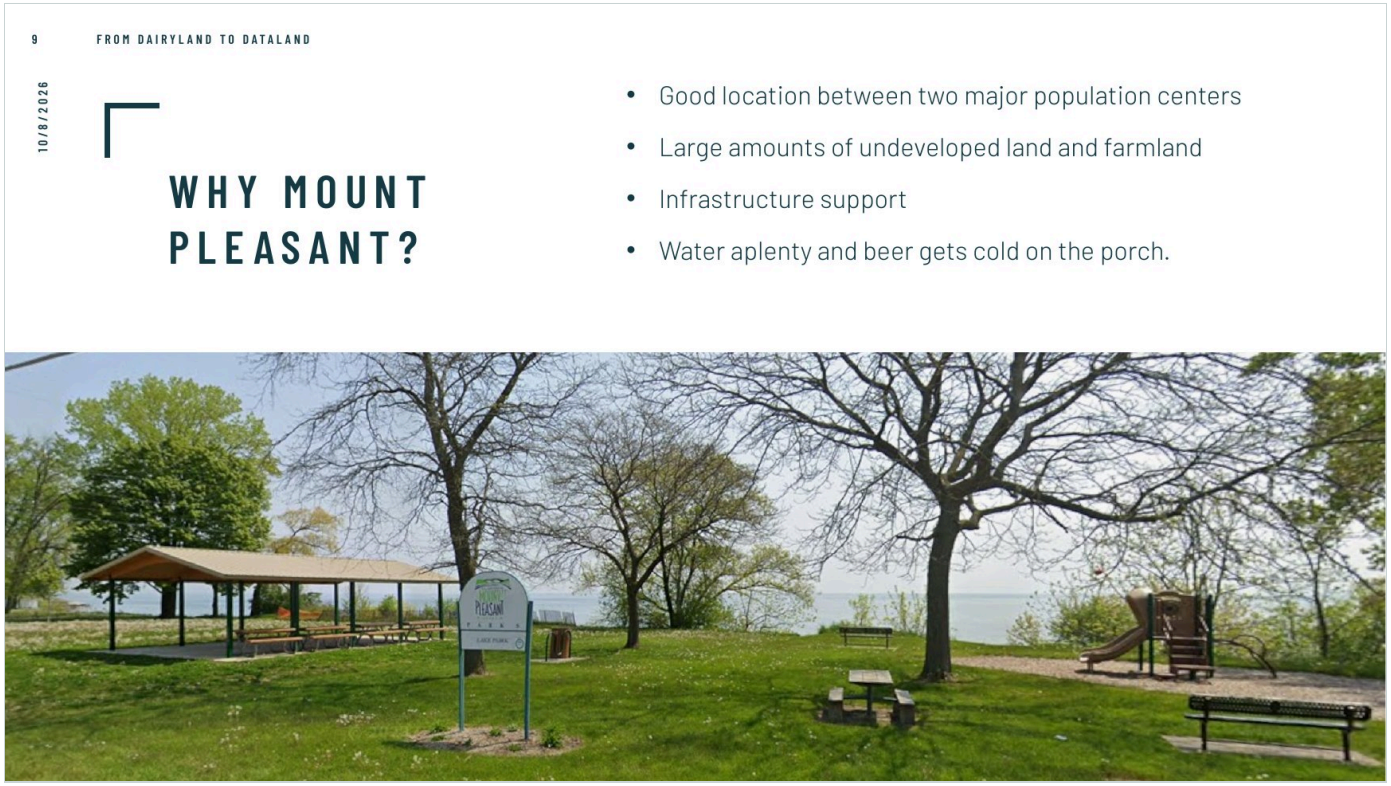



Mount Pleasant is in Racine County, Wisconsin, about 25 miles south of Milwaukee and 60 miles north of Chicago. Still very much Packer territory.

We’re right on Interstate 94. I live in Milwaukee and commute down, and some Mount Pleasant residents commute all the way to Chicago.

SLIDE 9

## Why Mount Pleasant?




Nobody tells you the exact calculus behind a site selection, but I can assume they picked us for some of the reasons we pitched.

We sit between two major population centers. We have a lot of undeveloped land and farmland. (Remember, farmland is developed land. It didn't come like that.) We have infrastructure, and the next slide explains where it came from. And Chicago is one of the data capitals of the country, with so much commodities trading running through it, so a lot of the internet's highways go there.

And we have water aplenty, and beer gets cold on the porch. When people list the big concerns with data centers as water, heat and energy: it's cold here a lot, and we have more fresh water than we know what to do with. If you asked where to put a data center so it's easier on the environment, you'd say somewhere that isn't water stressed, so not a desert, and somewhere colder. In theory they could just open a window. I know they don't actually do that. But they could.

The Great Lakes are a big part of people's identity here, and people protect that water more than almost anyone on the planet. The human mind can't really fathom how much water is in those lakes, but people protect every last drop. That's their right. I like the lakes too.

SLIDE 10

## Without Foxconn, there is no Microsoft




The big point: without the Foxconn project, there is no Microsoft project, and we wouldn't be talking about this today.

The Foxconn deal put in the water and power infrastructure. The tax increment district kept financing our economic development team, so we stayed in the market for big projects. We narrowly missed out on a major Intel plant, to Ohio of all places. Love you, Ohio. Foxconn also professionalized the Village staff. Around 2014 we were about as small as you can get, with high turnover and local, petty politics. The ship got righted, because everyone realized we were in the big leagues now. And our 2020 code update closed a lot of the gaps a bigger Foxconn project could have exposed.

Then in 2023 Microsoft took advantage of the site's readiness and stepped into a mostly by-right process. I doubt the statewide push and special legislation behind Foxconn would have happened for a data center in 2023, and in 2026 it definitely wouldn't have.

It's hard to talk about Foxconn without the politics. The deal stuck to every politician tied to it, and it was a central issue in the 2018 governor's race, when Tony Evers beat Scott Walker. But it gets less partisan the more local you get. Locally, the deal worked because of the protections built into the development agreement. Foxconn paid every tax obligation, including several makeup payments for missing its minimum assessment target. Microsoft's 2023 land purchase paid off the special assessments Foxconn still owed and left about a $36 million cushion to guarantee the bond payments, with no new debt for the Village. And Foxconn has since said it's ramping up toward as many as 2,000 local jobs. Not 13,000, of course, but in 2017 everyone would have been over the moon with that.

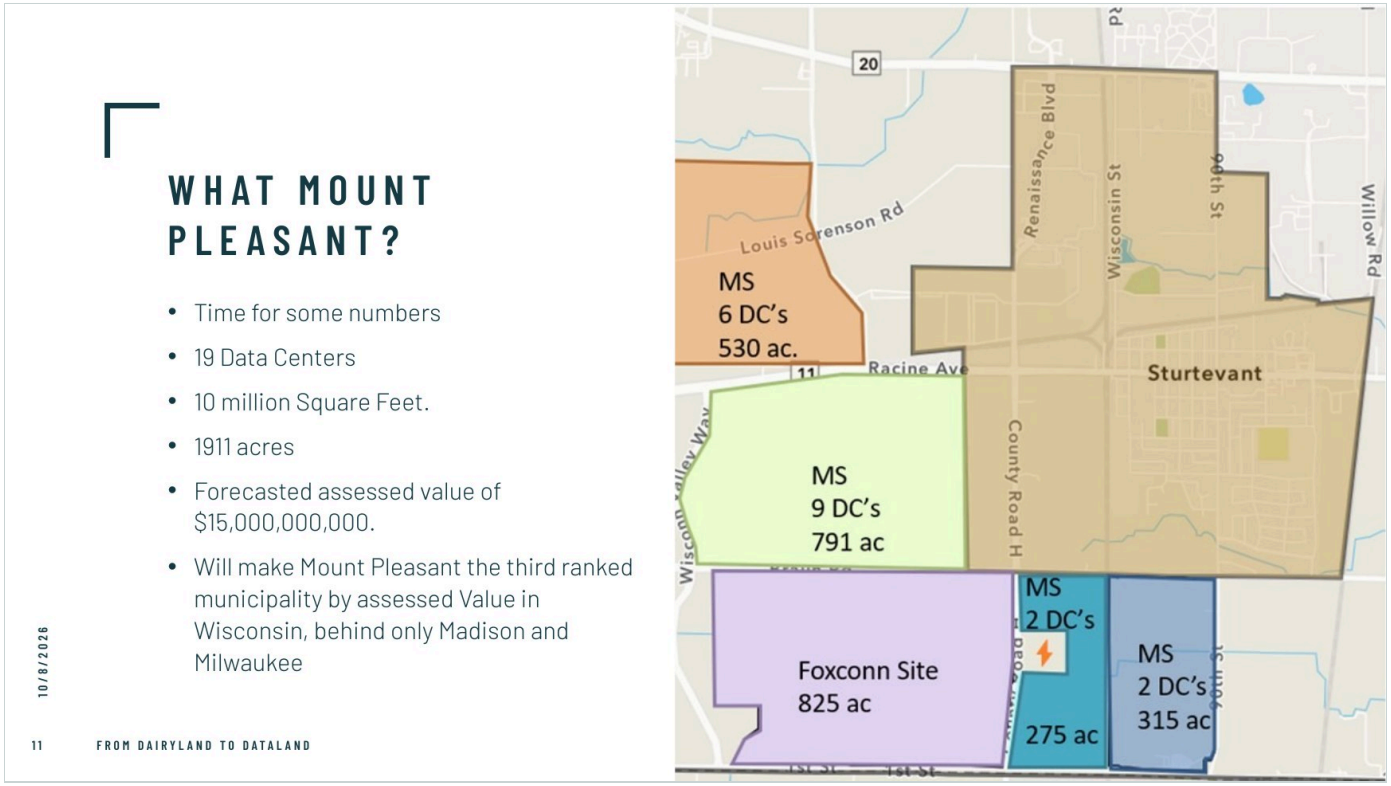
That's a big part of my advice today: make sure your community has those same protections.

### LINKS AND SOURCES

- Spectrum News 1, Microsoft plans to build $1 billion data center on Foxconn's land (March 2023) spectrumnews1.com

SLIDE 11

# What Mount Pleasant?




Time for some numbers. You may need to turn your calculator sideways to fit all the digits.

Nineteen data centers projected so far. Ten million square feet of data centers on 1,911 acres. A forecasted assessed value of $15 billion. That alone, with nothing else in the Village, would make Mount Pleasant the third-ranked municipality in Wisconsin by assessed value, behind only Madison and Milwaukee. It's mind-boggling.

A lot of numbers get thrown around for power. I assumed it would be measured in flux capacitors. Gigawatts, whatever. It's a lot. There's capacity for the first phases, and expansion is being worked out with We Energies.

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LINKS AND SOURCES

- Village of Mount Pleasant, TID No. 5 project plan and Joint Review Board reports (development and value projections)
- Microsoft, Infinite scale: the architecture behind the Azure AI superfactory (Nov. 2025) blogs.microsoft.com
- DCD, Microsoft's first data center at Mount Pleasant campus now operational datacenterdynamics.com

SLIDE 12

## Getting ready for a data center




Getting ready for a data center: what to do to prepare before a data center project comes to your community.

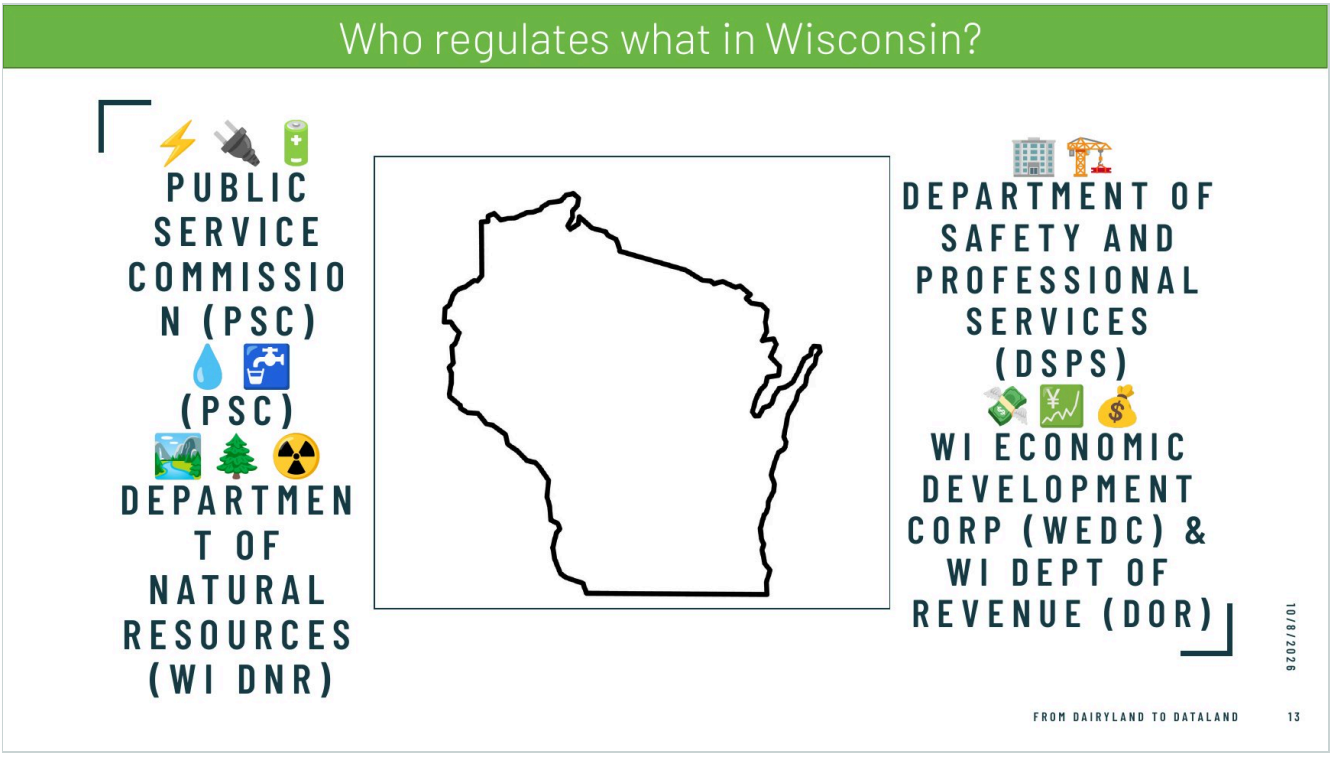
The biggest difference between a data center and any other project you'll see as a planner is that the scale and the timing are all off.

The timing takes away the leverage the plan commission, staff and governing body are used to having with applicants: "Hey, can you do this?" or "We're not sure we want to approve that, what can you do to make it better?" With a megaproject, things get signed at the state level, in the governor's office, long before you ever see it. So any loosey-goosey, "well, I don't know" development process you have is pretty much bunk by the time one of these arrives.

And the scale ratchets up the pressure on everything. Lawyers are everywhere, every decision gets hyper-focused attention, and nobody wants to be the bad guy who kills something for the community. That's why it's so important to have a tight ship before one of these shows up.

SLIDE 13

## Who regulates what in Wisconsin?




Everyone talks about the problems with data centers, but locally we don't regulate most of them. We decide whether they go in, and we don't regulate much of what they do. Microsoft's Brad Smith said it himself in January 2026: back in 2024, residents wanted to talk about jobs, and by October 2025 the big topics were electricity prices and water use. Those are two things a village doesn't regulate. Here's who does.

The Public Service Commission regulates power. Wisconsin's power utilities are mostly regulated monopolies, and ours is We Energies. The PSC also regulates water utilities, which are more locally owned. Our water comes from the City of Racine. The DNR handles environmental permits. The building code comes from the Department of Safety and Professional Services, and a Wisconsin municipality can't change the state building code at all. State incentives run through WEDC and the Department of Revenue. The state gave both Foxconn and Microsoft sales tax breaks on their capital spending, and there's state economic development money tied to the jobs.

On April 24, 2026, the PSC approved We Energies' very large customer tariff. Customers of 100 megawatts or more pay for 100 percent of the new generation built for them, on contracts of at least 15 years. Transmission costs are a separate fight at FERC, the federal regulator, where ATC expects to spend more than $500 million connecting the campus.

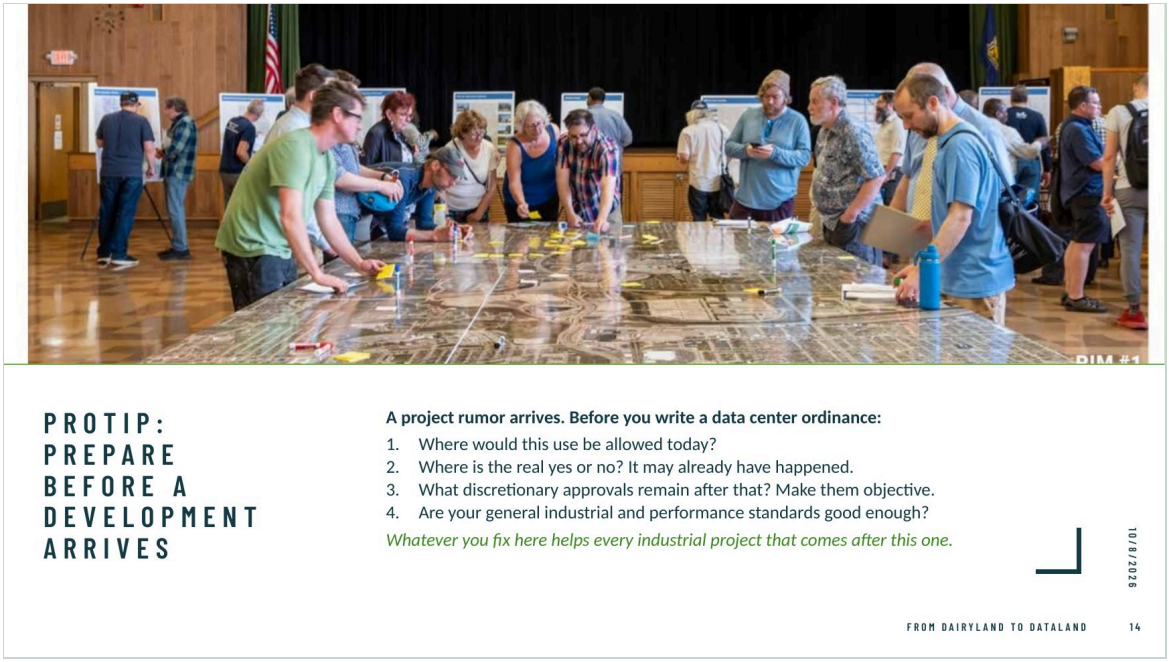
Know your lane doesn't mean "not my problem." Power and water matter to planners, and we coordinate around those systems. We just don't pretend to be the PSC, the DNR or FERC. A zoning ordinance isn't supposed to solve all of society's problems. It's supposed to say this should go here rather than there, and why, based on what the land use is.

### LINKS AND SOURCES

- Public Service Commission of Wisconsin, The PSC and Data Centers psc.wi.gov
- GeekWire, Microsoft vows to cover full power costs and reject local tax breaks (January 2026) geekwire.com
- Data Center Knowledge, Wisconsin's Data Center Tariff Signals a New Regulatory Baseline datacenterknowledge.com
- WFRV, Wisconsin amends We Energies data center tariff to put full costs on tech companies wearegreenbay.com
- Wisconsin Department of Revenue, qualified data center sales tax exemption (PDF) revenue.wi.gov

SLIDE 14

# Protip: Prepare before a development arrives




Most communities don't get much warning before an application comes in and vests. So when the rumor arrives, don't start by writing the world's greatest data center ordinance. Start by tracing the path that exists right now.

Where would this use be allowed today? Where's the real legislative yes or no, and has it already happened? What discretionary approvals remain after that point? If the path runs through a discretionary approval that isn't a rezoning or a comp plan amendment, change it and make it a by-right path. By right doesn't mean allowed everywhere. The community still decides where. It means once the use is in the right district, the path is objective.

Then ask whether your general standards are good enough: noise, lighting, parking, landscaping. Fix them for every manufacturing district, and nobody can say you're targeting one company. Whatever you fix there helps every industrial project that comes after this one.

Don't negotiate from an empty or outdated code, one that's vague. Get rid of the planner's boogeyman: subjective approvals with criteria that are vague, missing, or outside a legitimate government interest. I'm going to say it: Nollan/Dolan. Drink. That's the essential nexus. The government needs a legitimate reason to regulate something, and the rule has to actually mitigate the impact. If your regulations aren't doing that, improve them.

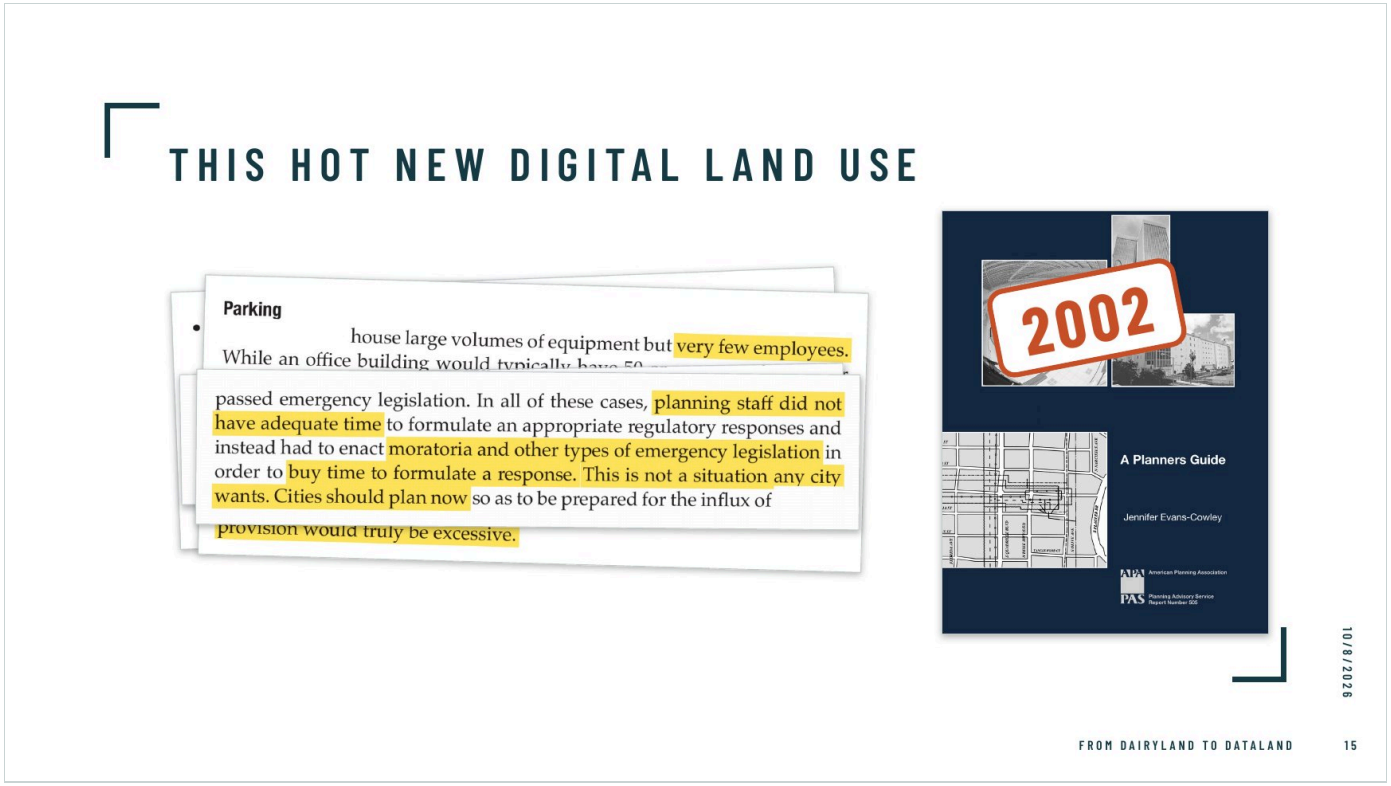
Then find your point of no return: the stage where electeds and residents can really weigh in and turn a project down, with no legal consequences. That's harder than it sounds. After that, remove as many discretionary decisions as you can. Once everything is running downhill, you don't want anyone stepping on a rake after the community is already pot-committed and backing out would bankrupt the municipality. PUDs, CUPs and other choose-your-own-adventure zoning should be avoided at all costs here. You won't have the upper hand, especially after the development agreement is signed and twenty state politicians are hanging out in the lobby.

## LINKS AND SOURCES

- Wisconsin Towns Association, vested rights under Wis. Stat. § 66.10015 (PDF) wisctowns.com
- UW-Madison Extension, Conditional Uses After Act 67 (PDF) fyi.extension.wisc.edu
- Nollan v. California Coastal Commission, 483 U.S. 825 (1987) supreme.justia.com
- Dolan v. City of Tigard, 512 U.S. 374 (1994) supreme.justia.com

SLIDE 15

## This hot new digital land use




Sam and I did a bit here. Sam made the point that it's worth keeping up with the latest definitions, technology and best practices, and I pulled out an APA guidebook about "this hot new digital land use."

Big power draw, industrial cooling, backup generators and security. Very few employees, so normal parking ratios don't work. Private infrastructure that's hard for planners to get information about. Cities caught flat-footed, passing emergency ordinances and moratoriums. And APA's advice: cities should plan now. Pretty solid 2026 data center guidance, right?

Then the reveal. It's PAS Report 505, Telecom Hotels: A Planners Guide, from 2002. Sorry, Sam: the latest guidance from 24 years ago. The equipment changed enormously. The planning questions barely changed at all.

Every clipping on the slide is a real crop of the report (Jennifer Evans-Cowley, APA, March 2002), from pages 3, 16, 11 and 14, with the highlights added and the words "telecom hotel" blanked out until the reveal.

### LINKS AND SOURCES

- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org

SLIDE 16

## We've been here before




Telecom hotels were the dot-com boom's server buildings: big, windowless, full of equipment, and showing up in downtowns. Read PAS 505 today and it's eerie. Sacramento, Cleveland, Washington, D.C. and Portland all got caught flat-footed and passed emergency legislation and moratoriums "to buy time to formulate a response." By December 2001, only 8 of the 50 largest U.S. cities had rules written for them. The issues were the ones we still talk about: hardly any employees, parking codes written for offices, backup generators, blank walls that kill the street, and siting near the fiber. APA's advice then: cities should plan now.

For scale: at the end of 2001, the whole country had about 63.7 million square feet of telecom hotels, built for up to 50 watts a square foot. Our campus alone is planned at about 10 million square feet, at roughly six times that power density. One village, in the same league as the whole country's 2001 inventory. That's also why square footage makes a lousy yardstick. The same square foot now carries six times the power, heat and fan noise.

One more gem from the report. Dublin, Ohio got tired of telecom companies tearing up its new boulevards, so it franchised one shared conduit system and required every provider to use it. The city got its own conduit out of the deal. Dig once. Remember that when we get to heat.

Our takeaway: leverage each code update to support the next one. Good universal development standards are use-flexible, so you don't have to rewrite the ordinances every time something new comes along. And build feedback loops: learn from your mistakes and from resident concerns over time, instead of reacting.

The density figure is our estimate: about 340 megawatts for Fairwater's first buildings in roughly 1.2 million square feet, close to 300 watts a square foot.

### LINKS AND SOURCES

- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org

SLIDE 17

# It’s not just about industrial zones




It’s not just your industrial zones that need a look. (The missing middle graphic is there because APA requires it in every presentation. You can drink now.)

Megaproject readiness is also community capacity planning. Even the “temporary” surge of construction workers isn’t that temporary. Our build-out runs to 2030, so those workers will be working and living here longer than it takes to get a bachelor’s degree. Or, in my case, five years.

The business world is more and more housing conscious, too. Housing is a huge factor in hiring and keeping workers. Cedar Rapids, Iowa is living this right now: 1,500 to 3,000 trades workers per campus, rents and supplier prices up, some wages doubled, and local employers struggling to hire.

Mount Pleasant used the momentum of the Foxconn era to pass a 2020 code update that’s won multiple awards. Toot toot. We went from a large-lot, single-family structure to one where every residential lot allows one- and two-family homes. We roughly halved the minimum lot size, from 12,000 square feet to 6,000, and allowed duplexes by right, among a lot of other changes. That’s paid off now that housing demand has spiked as the development comes online.

## LINKS AND SOURCES

- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)
- Village of Mount Pleasant Code (Chapter 90 is zoning; noise is § 90-450.70) ecode360.com

SLIDE 18

## Define the use? Yes. But regulate the impacts.




True story: in 2023, site selectors called and asked for our definition of a data center. Our code let us classify unlisted uses, and we said it looks like a warehouse and smells like a warehouse, so we'll call it a warehouse. They said that wasn't good enough and asked for something more specific, so we added the definition on the slide under warehousing.

That works as a definition. But zoning is about health, safety and welfare. What's the difference between a data center and a warehouse full of computers? Or a big crypto mine, or a LAN cafe, or a giant Halo 2 server farm? It's hard to tell them apart, and harder still to show the government has a legitimate interest in regulating the difference. Dollar store ordinances are the cautionary tale. Communities have spent years trying to prove the difference between a dollar store and a 7-Eleven.

A definition is for clarity. If a use comes up often enough that people need to see its name in the code, cool. But four tiers of data center definitions won't help anybody. If you're using a definition to say "you can't go here," what are you actually regulating? Especially in Wisconsin, where a municipality doesn't control water or power, I still don't see a clean way to define a data center that warrants separate regulation. Back it up with impacts.

And beware: utilities are often completely exempt from zoning. Even if you define it and regulate it, the utility can say tough luck, and we've seen some of that with parts of our campus.

You're in good company calling it a warehouse. In 2002, PAS 505 profiled Indianapolis, which treated telecom hotels as an ordinary industrial use, similar to warehouses, allowed in any industrial district. APA's verdict: "To date, this policy has worked well." In January 2026, Davenport, Iowa described doing the same thing. Its zoning administrator ruled a data center a warehouse, allowed by right in light industrial. Davenport made the utility point too: its zoning doesn't reach the utility, and the utility owns the substations even when they serve one customer.

People also ask about equity and cumulative impacts. The concern is real. If all of a city's heavy industrial land sits next to the same neighborhoods, that's a planning problem. But the fix is the comp plan, the industrial map, buffers and performance standards. A special data center district doesn't fix anything for the next heavy industry. The asphalt plant still goes there.

### LINKS AND SOURCES

- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org
- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)
- Village of Mount Pleasant Code (Chapter 90 is zoning; noise is § 90-450.70) ecode360.com

SLIDE 19

# Keep approvals structured and standards-based




Predictable review tools, not ad hoc bargaining. No horse trading. Use clear adopted standards and measurable criteria, and avoid open-ended conditional use and PUD negotiations.

Those tools can work fine for other projects. Some people call it toll booth zoning: we create the zoning and decide who gets through. With these projects you'll be outgunned from the jump. It's part-time elected officials against the lawyers of a huge multinational corporation. Don't try it. You'll probably lose.

A good code that's spelled out and explicit will be in every closed-door meeting and implicit behind every signature, long before the project crosses your desk. It'll outlive you and out-affect you. So get your code done first.

In Wisconsin, since 2017, state law has pushed conditional uses toward an administrative, quasi-judicial decision: written standards, decided on substantial evidence. And PUDs, sometimes called à la carte zoning, are often an emergency band-aid for a bad code. I call it choose-your-own-adventure zoning: "Well, what do you want in it?" There's little difference between a PUD and a variance with extra steps, except who applies for it and how far ahead. In a PUD negotiation with one of these projects, they'll tell you what they want or say they'll walk away, and you essentially have no authority. If you use PUDs as standard practice, try to stop.

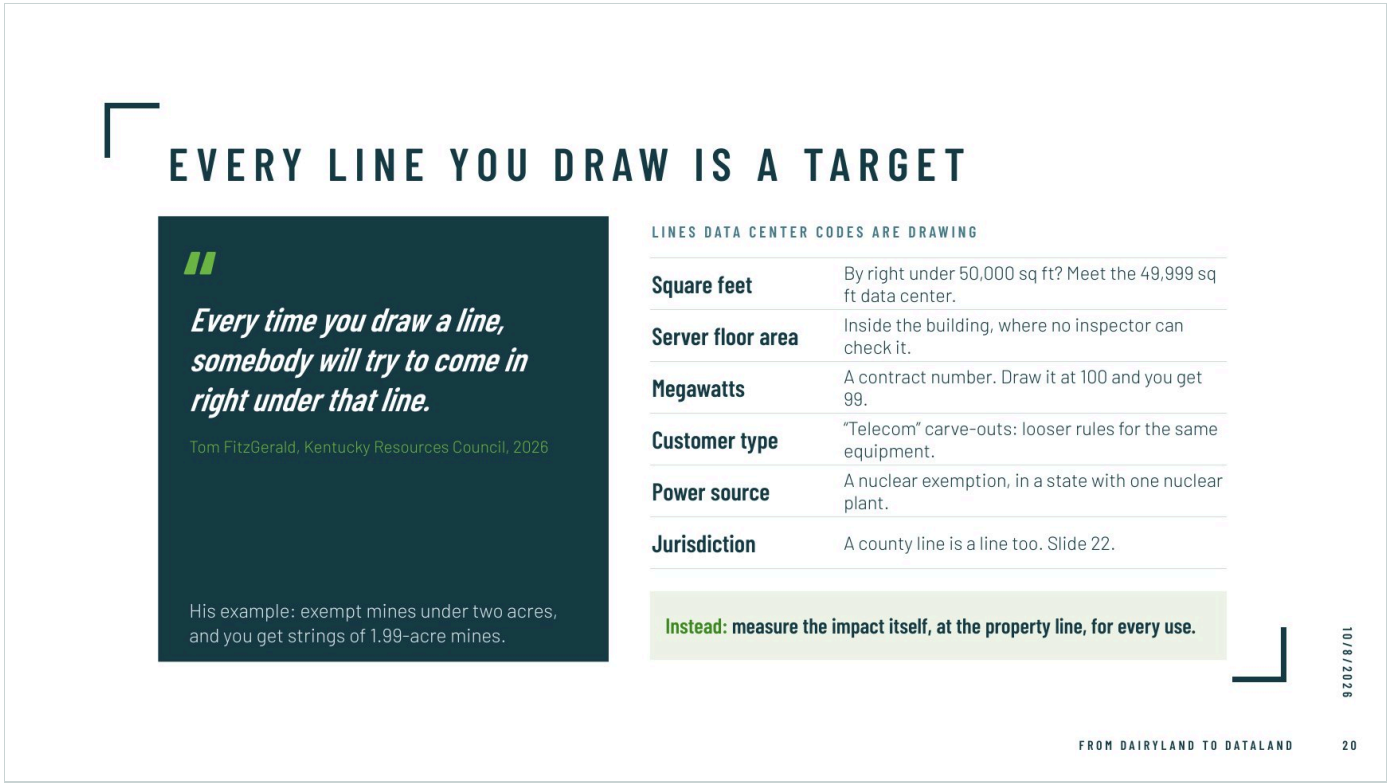
APA's latest Zoning Practice on data centers says it on the slide: relying on discretionary use permits alone isn't a perfect fix. Its answer is ours. Update the plan first, then adopt measurable standards that flow from it. Spend your discretion where the policy decision belongs, and don't keep re-spending it downstream. If you want to stay the same forever, land use law makes that your right. But if you plan for growth, you can't give yourself a bunch of technical backsies.

### LINKS AND SOURCES

- Zoning Practice, October 2025: The Physical Footprint of Artificial Intelligence (Charlie Nichols, AICP) planning.org
- UW-Madison Extension, Conditional Uses After Act 67 (PDF) fyi.extension.wisc.edu
- UW-Madison Extension, Conditional Uses and Special Exceptions fyi.extension.wisc.edu

SLIDE 20

# Every line you draw is a target




The best line I heard all year came from Tom FitzGerald, who ran the Kentucky Resources Council for nearly forty years: every time you draw a line, somebody will try to come in right under that line. His example: when mines under two acres were exempted from federal rules, the coalfields filled up with 1.99-acre mines strung together.

Data center codes are drawing the same lines right now. Square footage: put the by-right line at 50,000 and you'll meet the 49,999-square-foot data center. Server floor area: it's behind the fence, and it can change next week without a permit. Megawatts: that's a number in a confidential utility contract. It can change with an amendment that never touches a zoning permit, and if you draw the line at 100 you get 99. Customer type: one draft I read lets "telecom" data centers sit closer to homes with a weaker noise limit. Same fans, same hum. Power source: an Iowa county floated an exception for data centers at nuclear plants, in a state with exactly one nuclear plant. And jurisdiction: a county line is a line too, which is the Iowa story coming up (see slide 22).

Square footage isn't intensity. A small building with a diesel generator out back can be a worse neighbor than a huge one that's enclosed and quiet. So measure the impact itself, at the property line, for every use, and the standard scales on its own.

## LINKS AND SOURCES

- Tom FitzGerald, testimony to Louisville Metro Council's Planning and Zoning Committee, Oct. 6, 2026
- Kentucky Resources Council, data centers toolkit kyrc.org
- Louisville Metro 25-LDC-0014, Planning Commission recommendation of Sept. 3, 2026, § 4.3.36 (telecom carve-out)
- Louisville Metro, 25-LDC-0014 data center amendments, July 23, 2026 draft (PDF) louisvilleky.gov
- Iowa Public Radio, Palo, Linn County and the Google data center near Duane Arnold (July 21, 2026) iowapublicradio.org
- CBS2 Iowa, Linn County backs away from data center exception tied to nuclear power cbs2iowa.com
- KWWL, Linn County halts nuclear zoning plan after public pushback kwwl.com

SLIDE 21

## Problems arise if an application gets in the door before reform




Problems arise if an application gets in the door before reform. (That's Tom, the cartoon cat, sneaking through the door. He isn't any particular project. He's just the one sneaky enough to get in before you fixed your code.)

Your number one problem is vested rights. A developer who submits an application can legally bind the municipality to the code that existed on the day it was submitted, assuming the application was complete and legal, of course. In Wisconsin that's Wis. Stat. § 66.10015.

If contracts are signed first, like a development agreement between the developer and the municipality, even behind closed doors, new regulations will have a hard time not looking targeted, arbitrary or capricious. If you sign an agreement that says "we want this built here and we'll do everything in our power to get it built," then turn around and pass a moratorium or sharply limit data center size, that looks arbitrary and targeted, and they can sue you for breach of contract. It's happened before and it'll happen again. Any regulation written after an application is in the door carries that risk.

Moratoriums are very tricky. Everybody thinks you just say "we're not allowing it for this long." It doesn't work that way. Anything over a year is suspect at best, and even then you need a specific goal. The kind I can get behind sounds like this: "We are drafting legislation regulating this use, we expect to finish within so many months, and the moratorium runs until then, so nobody sneaks in under vested rights and harms the public interest." That's defensible. Anything else, you're on sticky ground. Linn County's moratorium (see slide 22) shows what happens when the pause comes after the deal has already moved.

Change takes time, and crafting new rules with built-in opposition is tricky. That's the whole case for fixing your general code before the phone rings (see slide 14).

### LINKS AND SOURCES

- Wisconsin Towns Association, vested rights under Wis. Stat. § 66.10015 (PDF) wisctowns.com
- UW-Madison Extension, Conditional Uses After Act 67 (PDF) fyi.extension.wisc.edu

SLIDE 22

## The county that asked for more




Here's a planner story from Iowa, told in order, and I'll let you draw the conclusion.

Negotiation. Linn County was negotiating with Google over 545 acres next to Iowa's only nuclear plant. In January 2026, Cedar Rapids' development director predicted the county would "negotiate a better deal even yet." On January 27 the county made its final counteroffer, and that same day the little city of Palo set up a meeting with Google's lawyers.

Annexation. On January 28, Google presented plans to annex into Palo instead.

Regulation. Three weeks later, on February 18, the county unanimously adopted what one supervisor called likely the most comprehensive data center ordinance in Iowa: a water study, a water use agreement, and an economic development agreement with community fund payments.

On March 4, the county put it plainly: Google went "to find a local government that will ask for less."

Moratorium. On July 1, the county passed an 18-month moratorium on new data center rezonings, 2 to 1. The lone no vote called it suspending an ordinance before it had ever been tested. The planning director got an exemption for nuclear and solar struck, because a real moratorium has to apply evenly. Then the board floated allowing data centers as an accessory use at nuclear plants, and he pointed out there's exactly one nuclear plant in Iowa, right next to Google's site. They dropped it in August.

Three lessons. Whatever one government asks for can be shopped next door. State rules, like our PSC tariff, go wherever a project lands. And the moratorium missed the real worries, which were Cedar Rapids' projects and the utility's gas plant. Cedar Rapids' own lesson fits too: talk to your neighbors before the developer does.

To keep the order straight: Google announced the Palo move three weeks before the county adopted its ordinance, and "ask for less" is the county's own statement. As of late July, Palo hadn't finished the annexation, and it passed its own data center

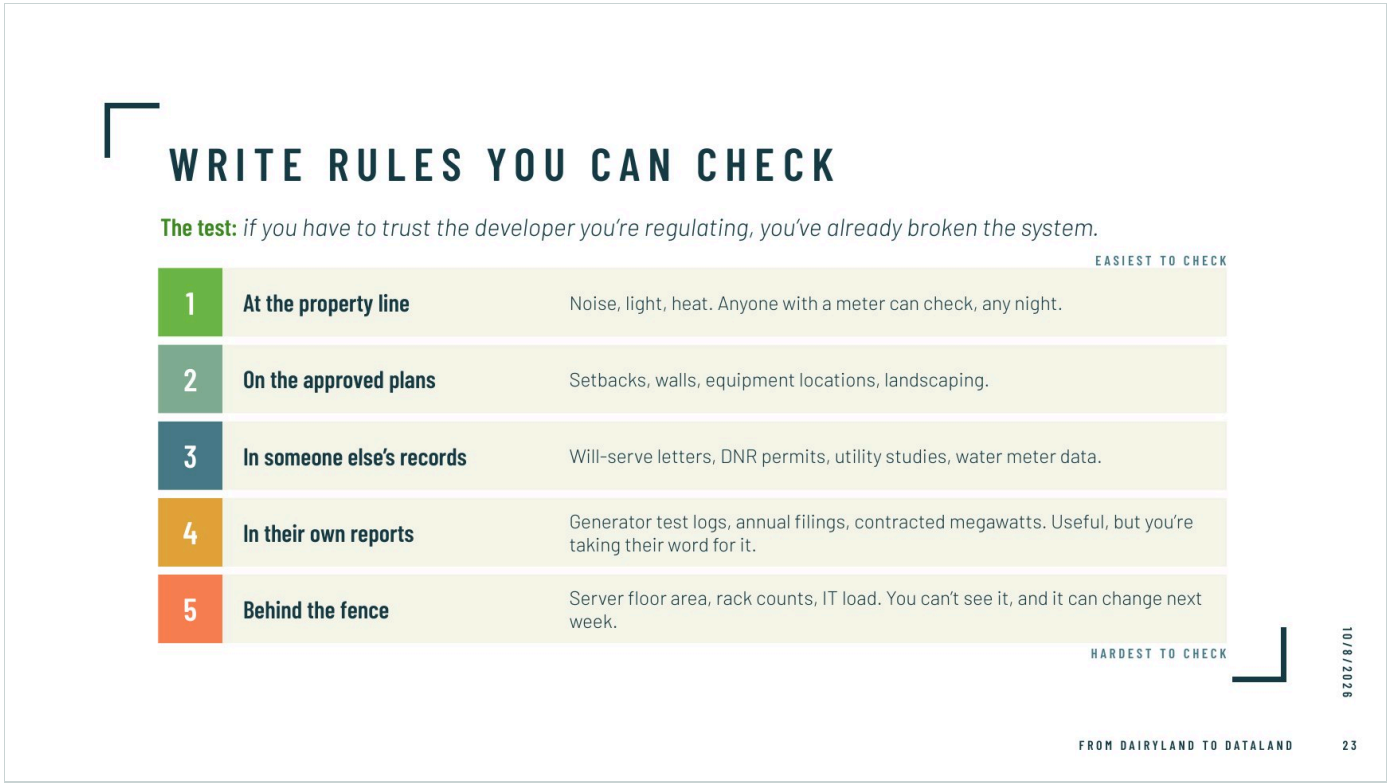
ordinance on July 21. Iowa counties tax property inside cities too, so the county may have lost its conditions more than its tax base. Wisconsin's direct annexation rules make the same move possible here, which is why boundary agreements matter.

### LINKS AND SOURCES

- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)
- Iowa Public Radio, the Google, Linn County and Palo timeline (April 23, 2026) iowapublicradio.org
- DCD, Google seeks land annexation for data center campus in Linn County, Iowa datacenterdynamics.com
- Linn County, Board of Supervisors approves data center ordinance (Feb. 18, 2026) linncountyiowa.gov
- Linn County, Linn County responds to Google's decision to bypass county protections (March 4, 2026) linncountyiowa.gov
- KCRG, Despite putting ordinance in place, Linn County passes data center moratorium (July 1, 2026) kcrg.com
- Corridor Business Journal, on the July 1 moratorium vote corridorbusiness.com
- Iowa Public Radio, Palo, Linn County and the Google data center near Duane Arnold (July 21, 2026) iowapublicradio.org
- KWWL, Linn County halts nuclear zoning plan after public pushback kwwl.com
- CBS2 Iowa, Linn County backs away from data center exception tied to nuclear power cbs2iowa.com

SLIDE 23

# Write rules you can check




The line on top is the whole slide: if you have to trust the developer you're regulating, you've already kind of broken the system. The higher up this ladder a rule sits, the longer it holds up.

My test for any standard: can I tell whether they're complying without asking them? Best case, you can check it from the property line with a meter: noise, light, heat. A resident calls, someone shows up at two in the morning, and either it's over the limit or it isn't. Next best, it's on the approved plans. Then records from a third party, like the utility, the DNR, or monthly water meter readings the utility shares. Below that, the operator's own reports, including the megawatts in their confidential utility contract. Useful, but you're taking their word for it.

The bottom rung is anything behind the fence. Some draft codes regulate server floor area, the space inside the building that holds the servers. How would a zoning inspector ever check that? You'd need a badge, an escort and an NDA, and it can change next week without a permit. Don't count racks. Don't count server space. Measure what reaches the neighbors.

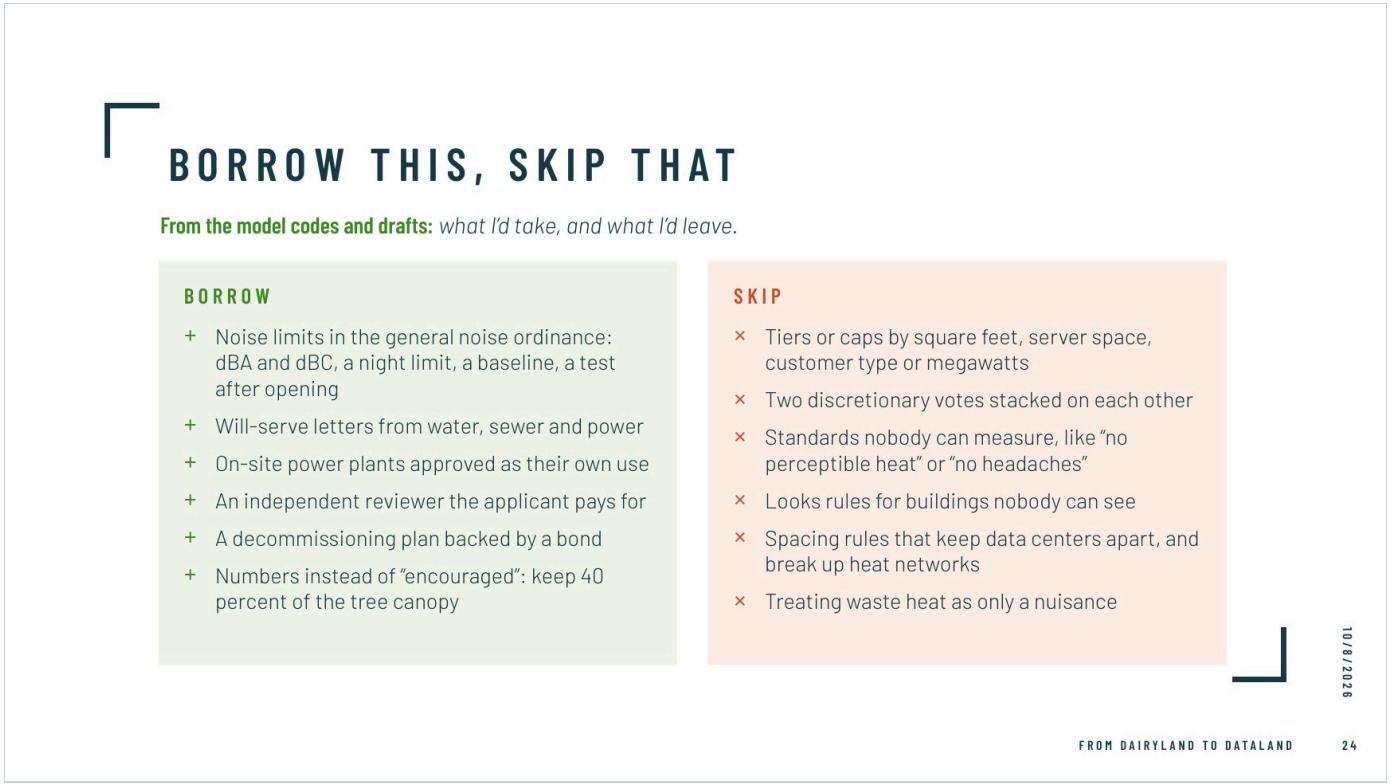
One more test before you adopt anything technical. If you couldn't win a fight on technical expertise against the people you'd likely end up in court with, pick a different standard. Use experts to design the limit and the method. Enforcement should come down to a location, a method, a meter and a number.

### LINKS AND SOURCES

- Louisville Metro 25-LDC-0014, Planning Commission recommendation of Sept. 3, 2026 ("white space" definitions and limits, an example of the bottom rung)
- Louisville Metro, 25-LDC-0014 data center amendments, July 23, 2026 draft (PDF) louisvilleky.gov

SLIDE 24

## Borrow this, skip that




I read the model ordinances and drafts going around so you don't have to. Here's what I'd take and what I'd leave.

Borrow the noise package, but put it in your general noise ordinance, not a data center chapter: dBA and dBC limits at the property line, a night limit, a baseline measured before construction, and a compliance test after opening. Then it covers every chiller, compressor and substation. Borrow will-serve letters from the water, sewer and power providers. Treat an on-site power plant as its own use with its own approval, which matters more as projects bring their own turbines. Have the applicant pay for an independent reviewer when you don't have the expertise in house. Back the decommissioning plan with a bond. And where a code says "encouraged," put in a number you can check on a plan, like keeping 40 percent of the existing tree canopy.

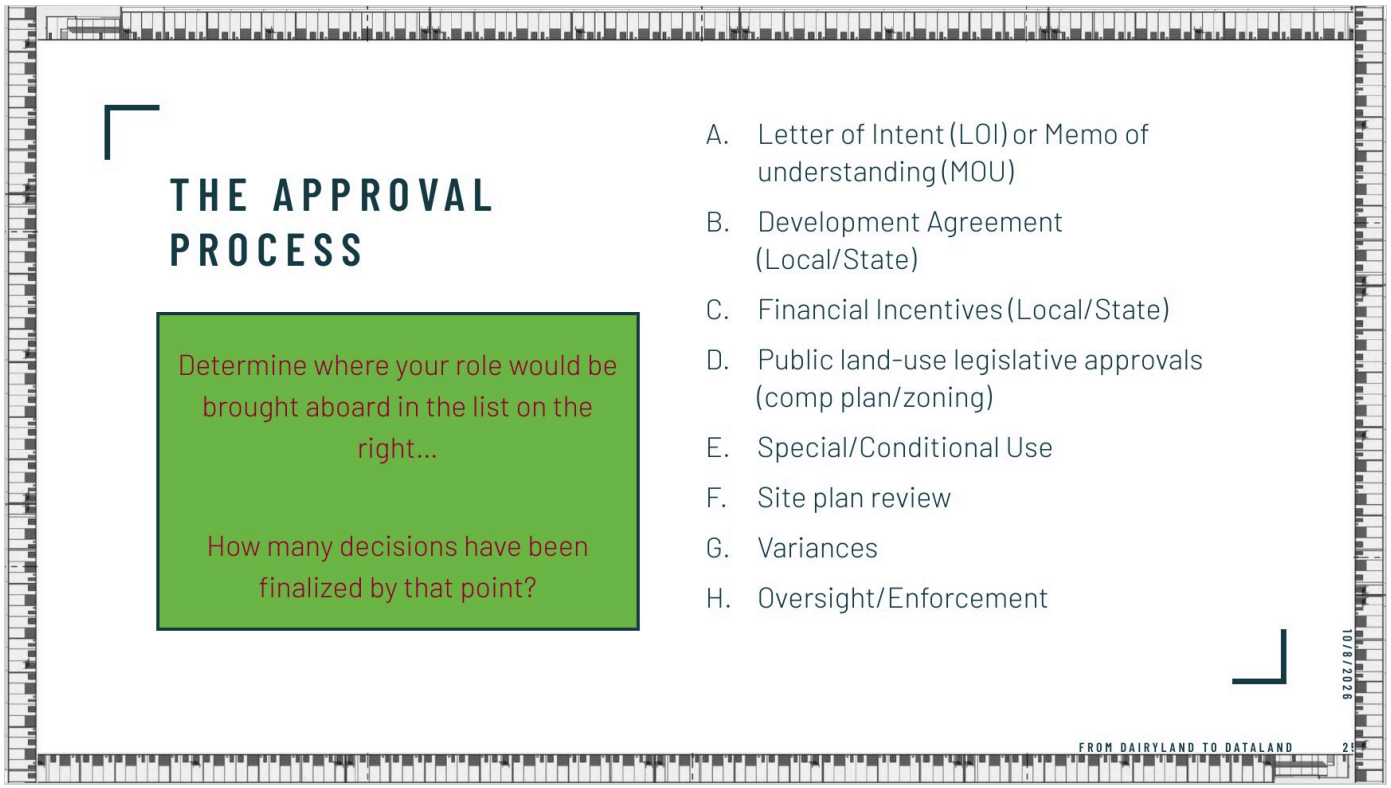
Skip tiers and caps by square feet, server space, customer type or megawatts. Skip stacking a rezoning and an open-ended conditional use. In Wisconsin, Act 67 took most of that CUP flexibility away anyway. Skip standards nobody can measure, like "no perceptible heat" at the property line or "no infrasound that causes headaches." The complaints are real, so write the measurable limit that prevents them. Skip looks rules for buildings set 500 feet back behind a berm. Skip spacing rules that keep data centers apart: they spread the hum across more neighborhoods and break up the clusters a heat network needs. And don't treat waste heat as only a nuisance. More on that at the end.

### LINKS AND SOURCES

- Kentucky Resources Council, Model Data Center Zoning Ordinance, version 1.4 (PDF) kyrc.org
- Louisville Metro 25-LDC-0014, Planning Commission recommendation of Sept. 3, 2026 (tree canopy, open space, will-serve letters, spacing, size cap)
- Louisville Metro, 25-LDC-0014 data center amendments, July 23, 2026 draft (PDF) louisvilleky.gov

SLIDE 25

## The approval process



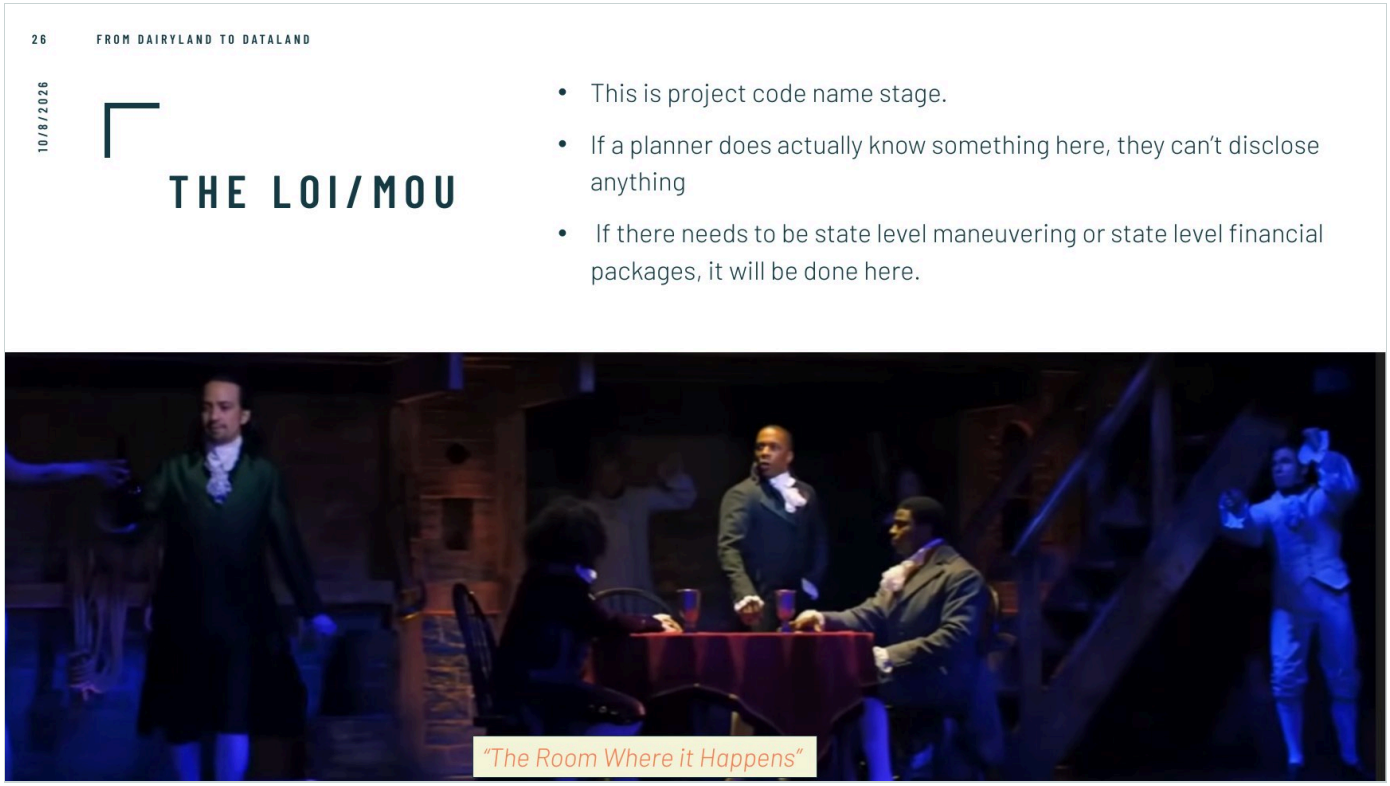

Here's how the approval process actually runs. It's a normal, everyday process, with a case you don't see every day.

First, a letter of intent or memorandum of understanding. Then a development agreement between the locality, the company and maybe the state, with financial incentives negotiated alongside it. Then the public land use and legislative approvals: comp plan, zoning, land division. Then special or conditional use permits, which are more administrative, checking the boxes. Then site plan review: the actual landscape plan, lighting plan and so on. Then variances, any time the application doesn't meet the code. Then oversight and enforcement.

Planners and other professionals: figure out where your role comes in on that list, and how many decisions are already final by the time you touch it. A lot of them will be made before it ever reaches you, and the only way to rise above that is a code that speaks for you before then.

SLIDE 26

# The LOI/MOU




The letter of intent or memorandum of understanding: the room where it happens. The famous Wisconsin example is the Foxconn deal, supposedly written out on a napkin between Scott Walker and Terry Gou, Foxconn's CEO at the time. I've never seen evidence of this napkin, photographic or otherwise, but it says a lot about how these processes work.

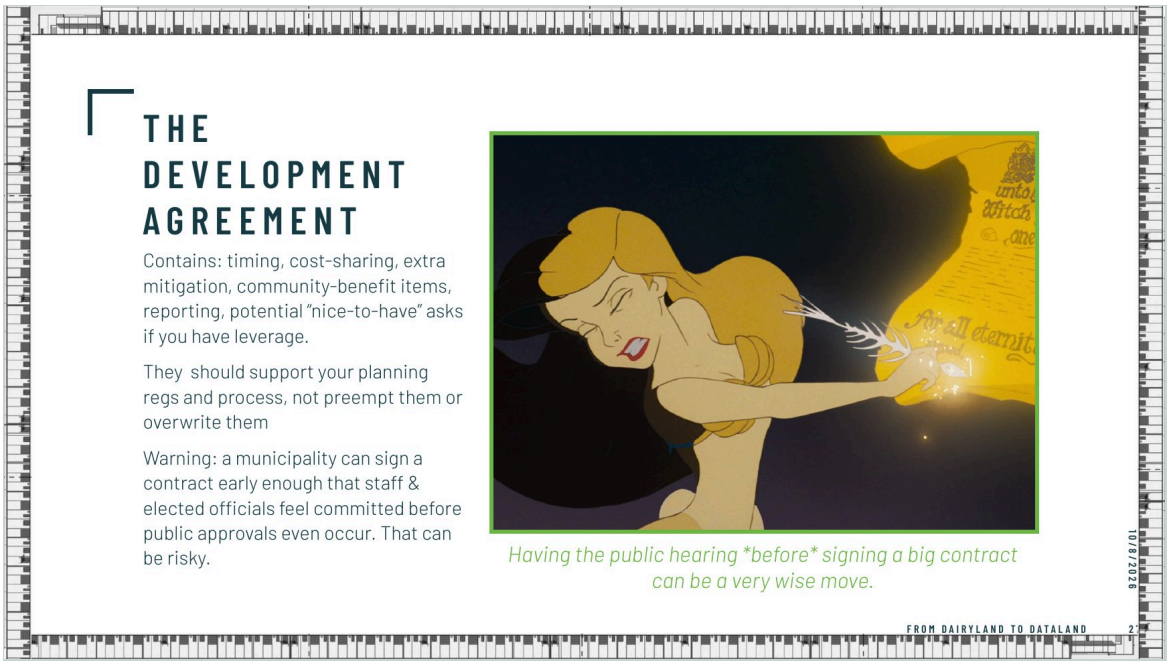
This is the project code name stage, when NDAs get passed around. If someone asks you about a project now, you can't say anything: either you weren't brought in, or you signed an NDA. News flash: I haven't signed any NDAs. Any state-level maneuvering and the big financial packages get worked out here too. Sometimes a pre-annexation or similar agreement shows up at this stage.

NDAs are tricky. As a public employee I'm subject to open records law. Everything I do is public, and I act like it. If you hand me a piece of paper as part of an application, it's public. But they put "trade secret" on everything, including the landscape plan. I'm sorry, your arborvitae is not a trade secret. Tech is very protective of everything.

How I handle it: I tell them I'll operate as normal and everything I have is an open record. I'll let them know when a records request comes in, and if they want an injunction to stop a release, that's on them and their lawyers. The burden should be on them to protect what they want protected, not on the public official. NDAs are generally fine for discussions that could happen in closed session anyway, like legal matters, negotiations or personnel. Check with your attorney. They're pretty smart.

SLIDE 27

# The development agreement




The development agreement is where the big stuff lives, and every place does them differently. Ours usually cover timing, cost sharing, extra mitigation, community benefits, sometimes vague goal statements, the reporting requirements, the nice-to-have asks if you have leverage, and the conditions of default: what they have to hit or they aren't fulfilling the contract.

This is where your protections are. These are the protections that have protected this community and made sure the agreements worked out. In Mount Pleasant, anchoring the agreement in local property assessments is what made it pretty bulletproof. Don't hang your guarantees on promises or assumptions. You can get a mortgage on your house, not on your potential crypto income. And don't build your strategy around clauses that claim to waive later statutory rights, like variance requests or assessment challenges.

The development agreement should support the planning process, not prescribe or preempt it. It shouldn't spell out what the site plan has to be, because then your lawyers are doing your planning. Let your planners plan and your lawyers lawyer. That's also why these things need to move at the same time.

Warning: a municipality can sign early enough that staff and elected officials feel committed before the public approvals even happen. That's very risky. Ariel could have used a public hearing before she signed her big contract, don't you think? All the merfolk thought it seemed kind of risky.

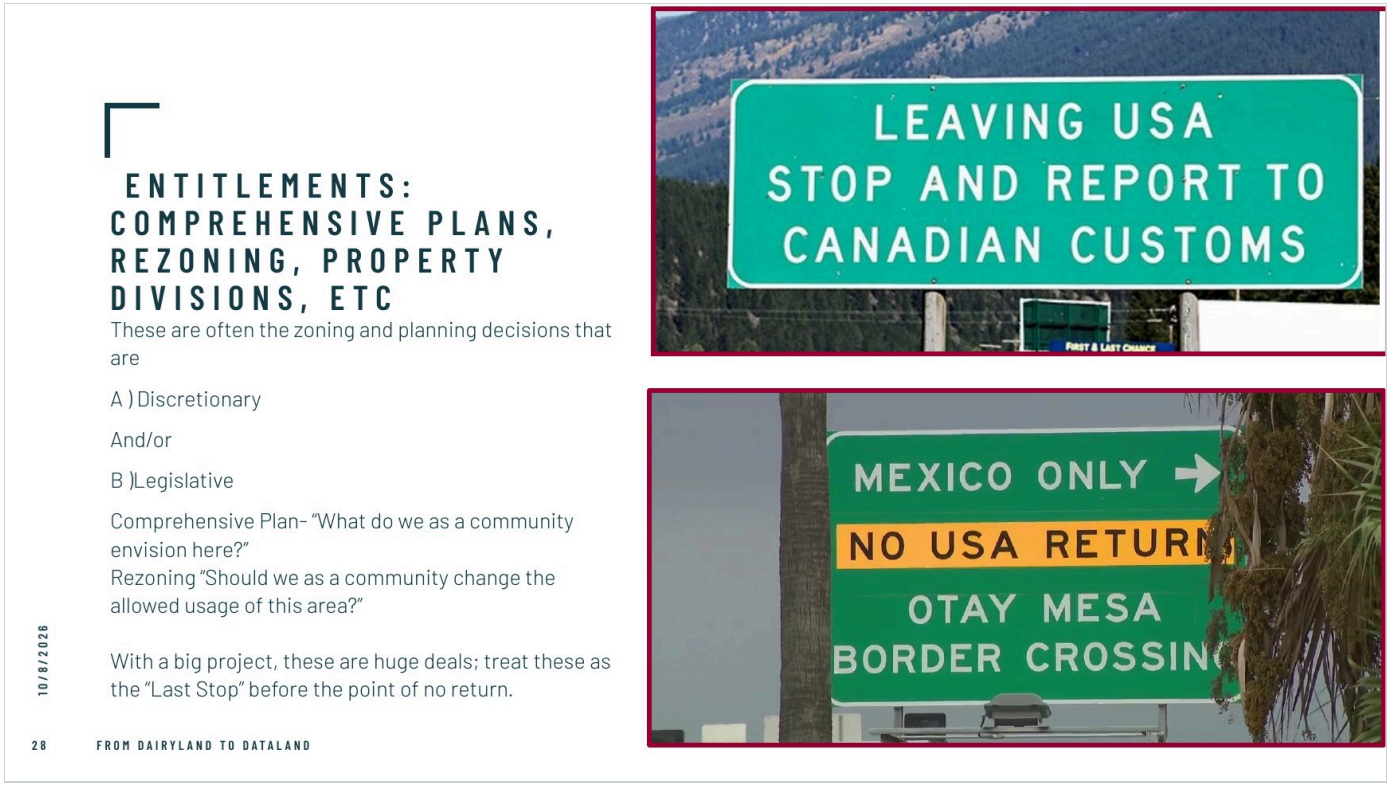
Steph Speirs, who teaches climate entrepreneurship at Yale, put it in one line: we can't build a system based on voluntary commitments. A pledge is a press release. A development agreement is a contract. Asks worth putting in before anyone signs: monthly water meter data, released by the water utility; batteries first for backup power, with a plan to phase out diesel, since Microsoft's own goal is no diesel by 2030; a fuel delivery plan for long outages; a road use and haul route agreement; construction discharges coordinated with the sewer utility; and training and equipment for the fire department.

### LINKS AND SOURCES

- Steph Speirs, in conversation with Elle Cordova
- Microsoft Azure, Progress on our commitment to sustainable backup power in datacenters by 2030 azure.microsoft.com
- WPR, Microsoft to use diesel-fired generators as backup power for data centers (Nov. 2024) wpr.org
- GeekWire, Microsoft vows to cover full power costs and reject local tax breaks (January 2026) geekwire.com

SLIDE 28

## Entitlements: comprehensive plans, rezoning, property divisions, etc.




Comprehensive plans, rezonings, land divisions and so on. I call this the last stop on the way out of town. These are the discretionary or legislative decisions, where your community can say yes or no based on a choice it wants to make. The comp plan asks: what do we, as a community, envision here? A rezoning asks: should we change what we thought this area should be and allow a use that wasn't allowed before?

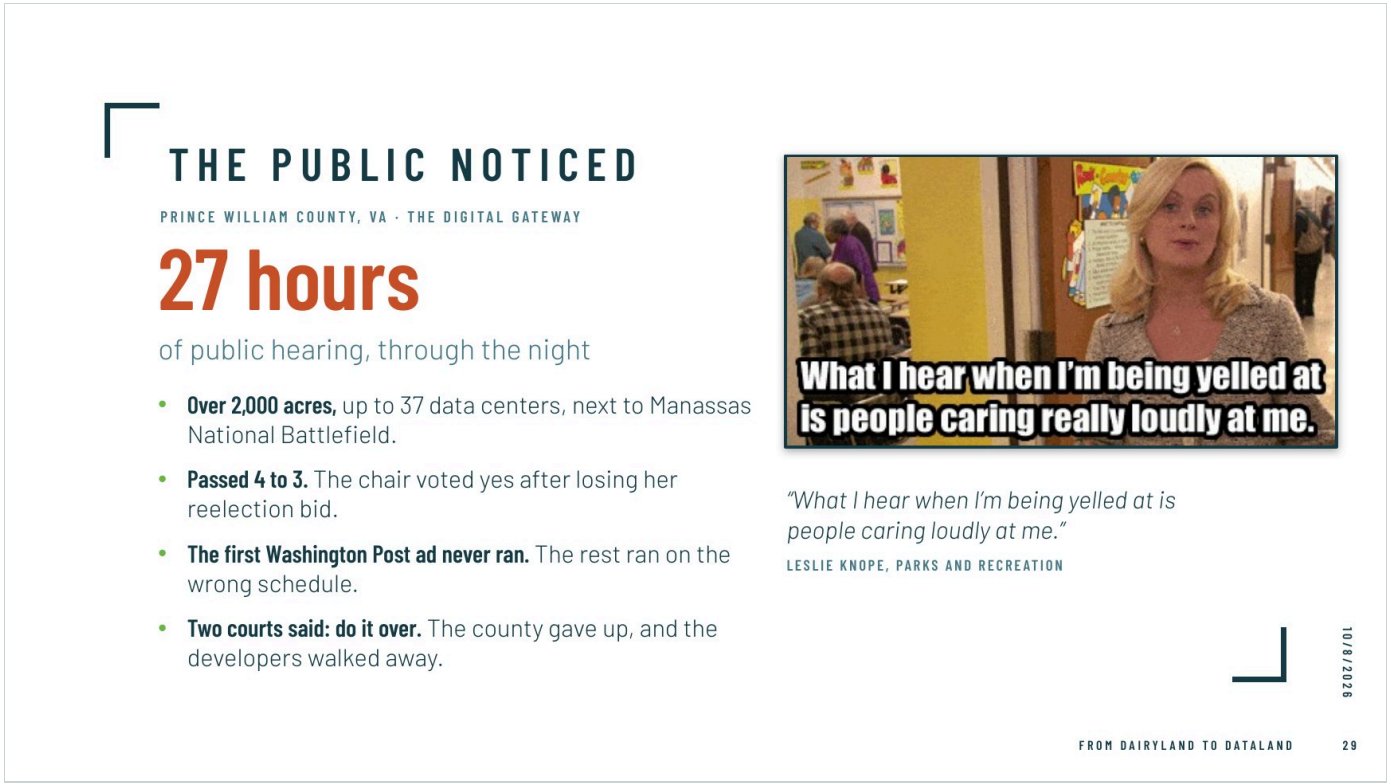
Comp plans should be far more forward-thinking than any single project, but nobody predicts a megaproject, so you'll likely need a comp plan amendment.

My very clear advice: make one of these entitlement steps the clear moment where the community comes together, has a big session, and decides. If you can say "we definitely had a decider, and this is what was decided," and everything flows downhill from there, it's a lot easier on everybody. If your community saying "oh hell no" matters to you and to them, and it should, this is where you do it.

What usually happens instead: nobody shows up to that meeting, it passes 7 to 0, and four years later somebody stages a hunger strike at the ribbon cutting and says no one ever told them. Or five or six months later the development agreement is signed, applications are being approved, the community's hands are tied, and you're still getting protests at every meeting. So get the word out that this is the meeting where it gets decided, and do your public participation. And when everything rides on that one meeting, the paperwork behind it has to be perfect.

SLIDE 29

## The public noticed




I grew up in Prince William County, Virginia, and my home county lost one of the biggest data center projects in the world over its newspaper ads.

The Digital Gateway: about 2,100 acres along Pageland Lane, next to Manassas National Battlefield, with up to 37 data centers. In December 2023, the outgoing board held a public hearing that ran 27 hours, through the night, then rezoned about 1,800 acres, 4 to 3 with one abstention. Flip one vote and it fails, and one of the four yes votes was the chair, who had already lost her primary. Supervisors had been warned about problems with the newspaper notices nearly two weeks before. They voted anyway, because waiting meant handing the decision to the new board.

Twenty-seven hours of public hearing, and the problem was notice. I think the public noticed.

The court found four defects. The first ad never ran, because the county never confirmed the order with the Washington Post. The next ads pointed people to ordinances that weren't available until five days before the hearing. Two ads ran too close together. And the last ran three days out, against the county's own five-day rule. The county argued that the people suing knew about the hearing and showed up. The Court of Appeals said no: the newspaper ads are for everyone who didn't come.

The fix was simple on paper: advertise again and revote. But a revote meant the new board. The county stopped appealing in April 2026 after about $1.7 million in legal costs, and the developers walked away.

So check proof of publication before the gavel, and if it's wrong, notice it again and move the date. Would a Wisconsin court forgive it? Probably not. In Oliveira v. City of Milwaukee (2001), the Wisconsin Supreme Court said an amendment passed without the required notice and hearing is void. Our open meetings law is more forgiving, since a violation makes an action voidable and a court weighs the public interest first. And in Defend Town Plans v. Jefferson County (2024 WI App 67), the Court of Appeals held that a rezoning out of farmland preservation was never validly enacted because the board skipped the

findings the statute requires. Wisconsin basics: a Class 2 notice for a rezoning, and a Class 1 notice at least 30 days ahead for a comp plan amendment.

As Leslie Knope put it: what I hear when I'm being yelled at is people caring loudly at me.

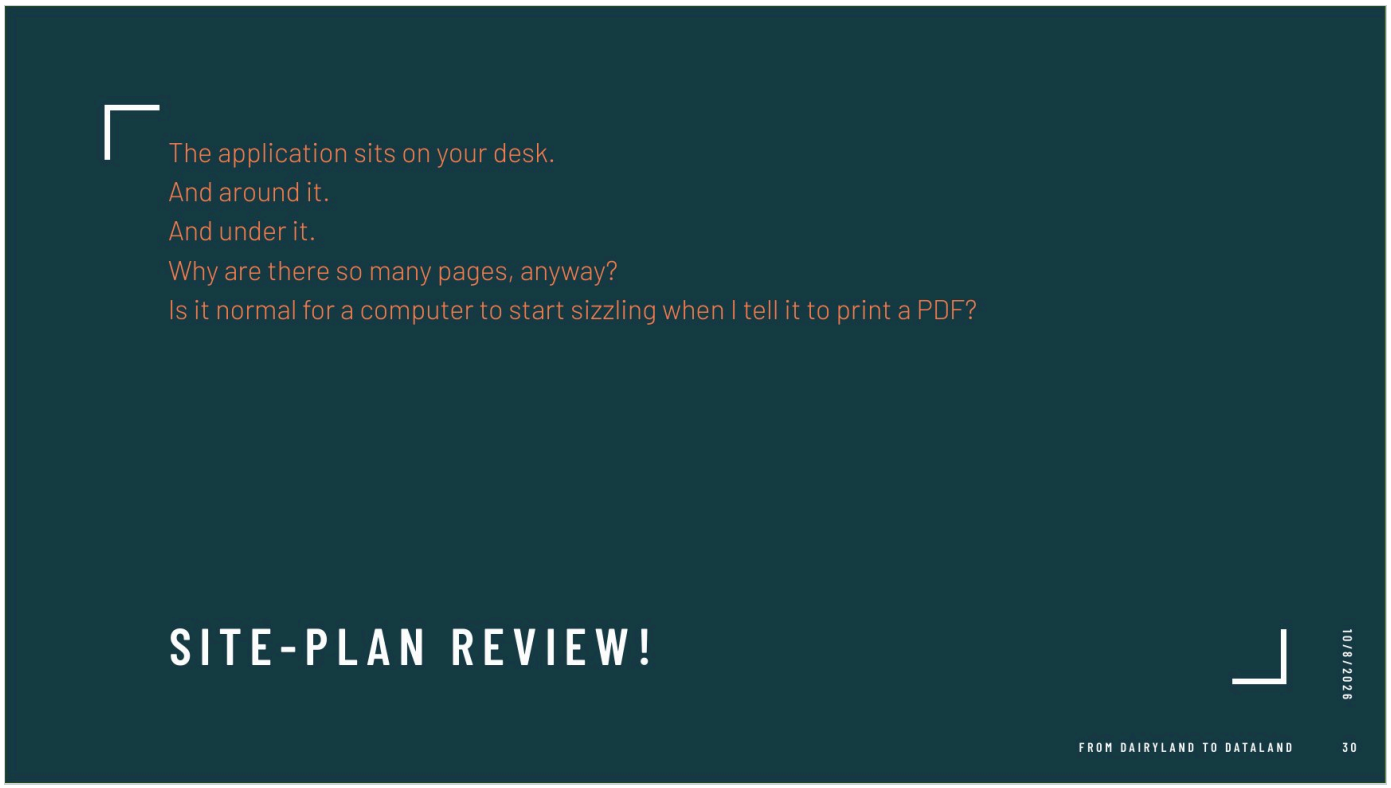
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### LINKS AND SOURCES

- Court of Appeals of Virginia, Board of County Supervisors of Prince William County v. Oak Valley Homeowners Association, March 31, 2026 (published)
- Virginia Lawyers Weekly, Virginia appeals court upholds block on Prince William Digital Gateway (April 1, 2026) valawyersweekly.com
- WTOP, Judge voids Digital Gateway rezoning in Prince William County (August 2025) wtop.com
- Potomac Local, ad errors void the Digital Gateway rezonings (Aug. 27, 2025) potomaclocal.com
- SEJ, Virginia county approves data center project after 27-hour public hearing (December 2023) m.sej.org
- Prince William Times, Upset over data centers, Jefferson unseats board chair Wheeler in primary (2023) princewilliamtimes.com
- Northern Virginia Magazine, Prince William County withdraws from legal battle over data center project (April 2026) northernvirginiamag.com
- The Next Web, Blackstone's QTS terminates the Digital Gateway thenextweb.com
- Oliveira v. City of Milwaukee, 2001 WI 27 caselaw.findlaw.com
- Defend Town Plans v. Jefferson County, 2024 WI App 67
- Wis. Stat. § 91.48, rezoning land out of a farmland preservation district law.justia.com

SLIDE 30

## Site-plan review!




Site plan review. Take another sip.

You've got the biggest application ever. Every time you open the PDF, it fries your computer. I've had plan commission packets take hours to print because of these things. I blame AutoCAD. Something about the layering.

The main site plan issues are noise, lighting, screening, parking, stormwater, and performance standards you can test in the field. And if you don't have a consulting firm on call, start shopping the day a data center proposal comes in.

SLIDE 31

## Site plan review has three jobs




So if the planner isn't supposed to bargain, and can't invent new conditions, what are we for? Site plan review has three jobs.

One, solve problems. The applicant says here's why we can't comply, is there another way? You know the code well enough to find a path that complies, and maybe one that costs less. You only need a 15-foot setback here, not 25.

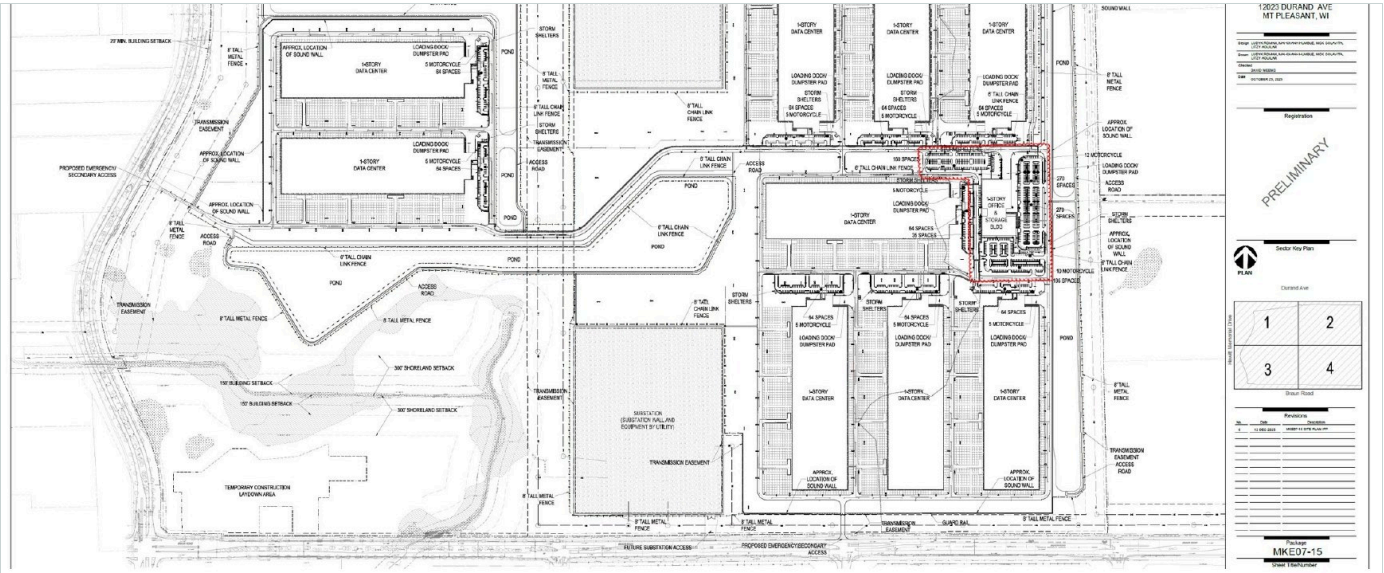
Two, enforce what the community already adopted. If the community decided light trespass, stormwater, landscaping and sound matter, site plan review is where those policies turn into real things on the ground.

Three, give good professional advice, the kind they're free to turn down. There's a future park over there; can you save that view? Most of the homes are on this side; if you have flexibility, spend your sound mitigation here. Native prairie would cost less than Kentucky bluegrass.

That's the difference between professional judgment and regulatory discretion. I can tell you something would make your project better without threatening to deny it if you don't. And you should almost always be able to justify a regulation to a developer in a way they can understand. If a rule doesn't make sense to you as the planner, ask yourself why it's there. The next few slides are that test in action.

SLIDE 32

# The site plan

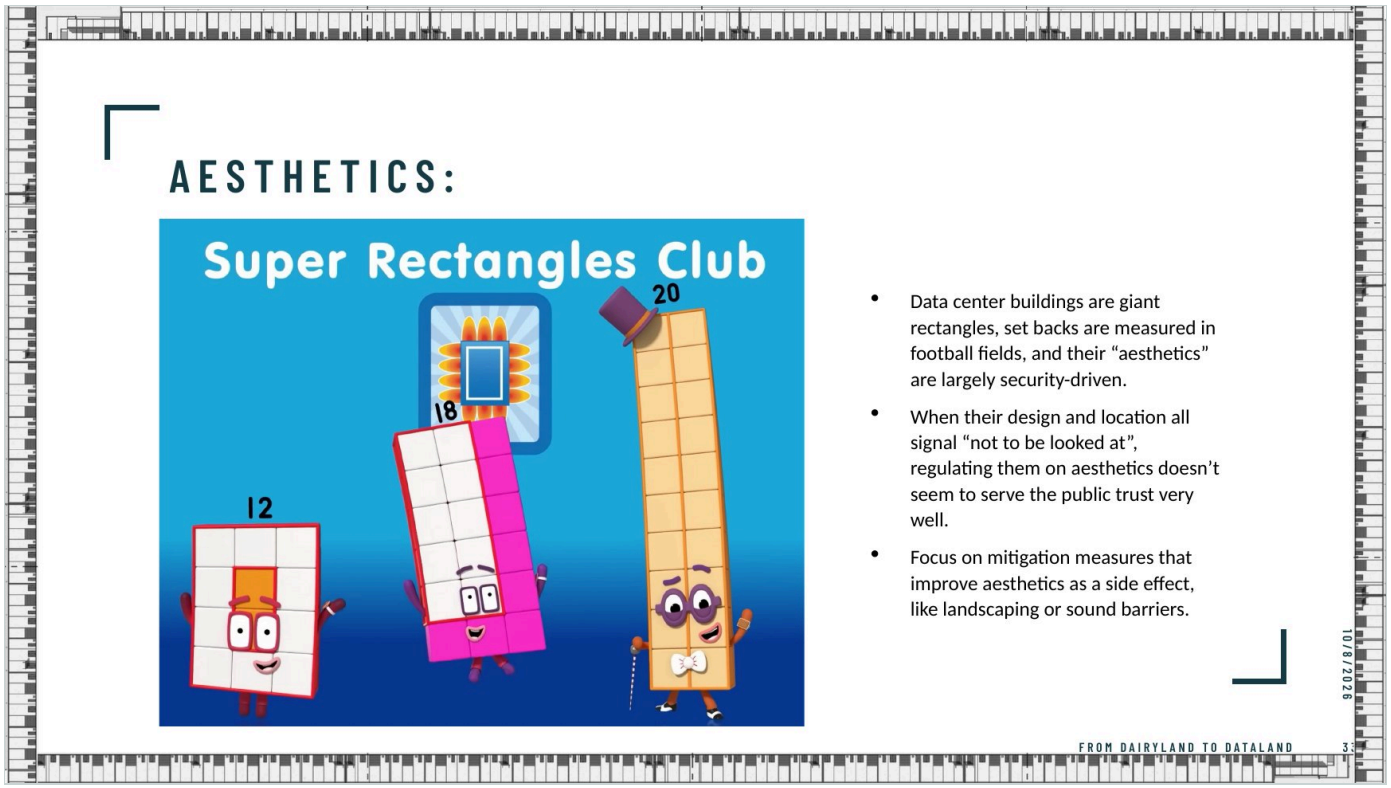



This is one of the site plans that came across in January 2026, the one with nine data centers: about 5.2 million square feet of buildings, two utility-scale substations and 64 acres of stormwater ponds. It’s huge. The numbers broke all our metrics, and we approved it that month.

If you need hired guns, especially for engineering review, bring in a consultant. These projects mostly land in smaller communities that don’t have the staff to review something this large. We have both staff and consultants, so we handle the big-picture planning in house and bring in consultants for the rest.

SLIDE 33

# Aesthetics




Super rectangles. Data center buildings are giant rectangles, setbacks are measured in football fields, and their aesthetics are mostly driven by security. They want to sit far back, behind tall fences, stormwater ponds and sound walls. When the design and the location both say “not to be looked at,” regulating them on looks doesn’t serve the public very well.

So focus on mitigation that improves aesthetics as a side effect, like landscaping and sound barriers, not the usual articulation rules you’ll find in a lot of zoning codes. This is especially true for hyperscale campuses. Same with transparency requirements: we’ve had to grant a variance on transparency every single time, because you can’t even see the front of the building. It just doesn’t make sense.

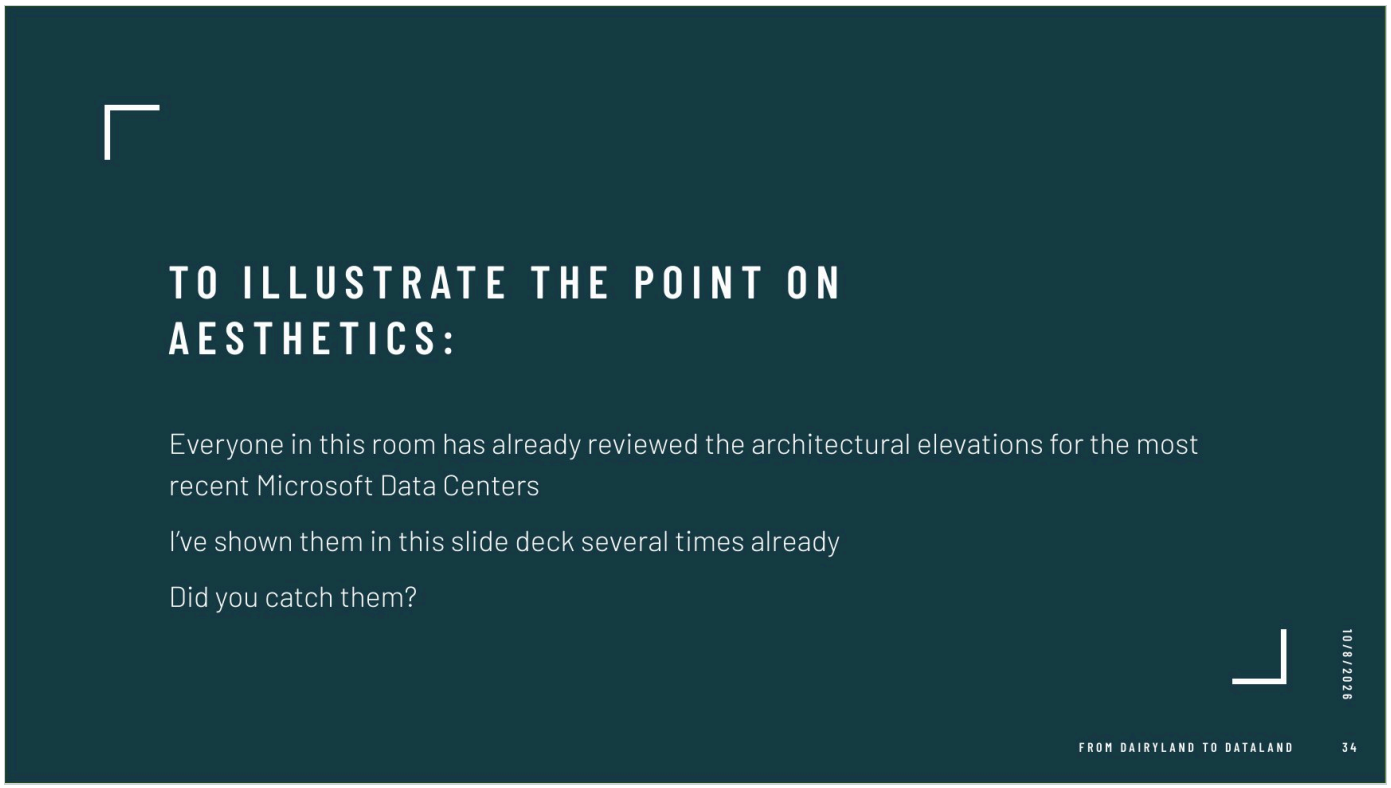
APA said as much in 2002. PAS 505: “In industrial or warehouse districts, the appearance of inactivity may not be of concern.” At minimum, screen the equipment.

## LINKS AND SOURCES

- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org

SLIDE 34

## To illustrate the point on aesthetics




To illustrate the point: everyone in the room has already reviewed the architectural elevations for the most recent Microsoft data centers. I've shown them in this deck several times already. Did anybody catch them?

SLIDE 35

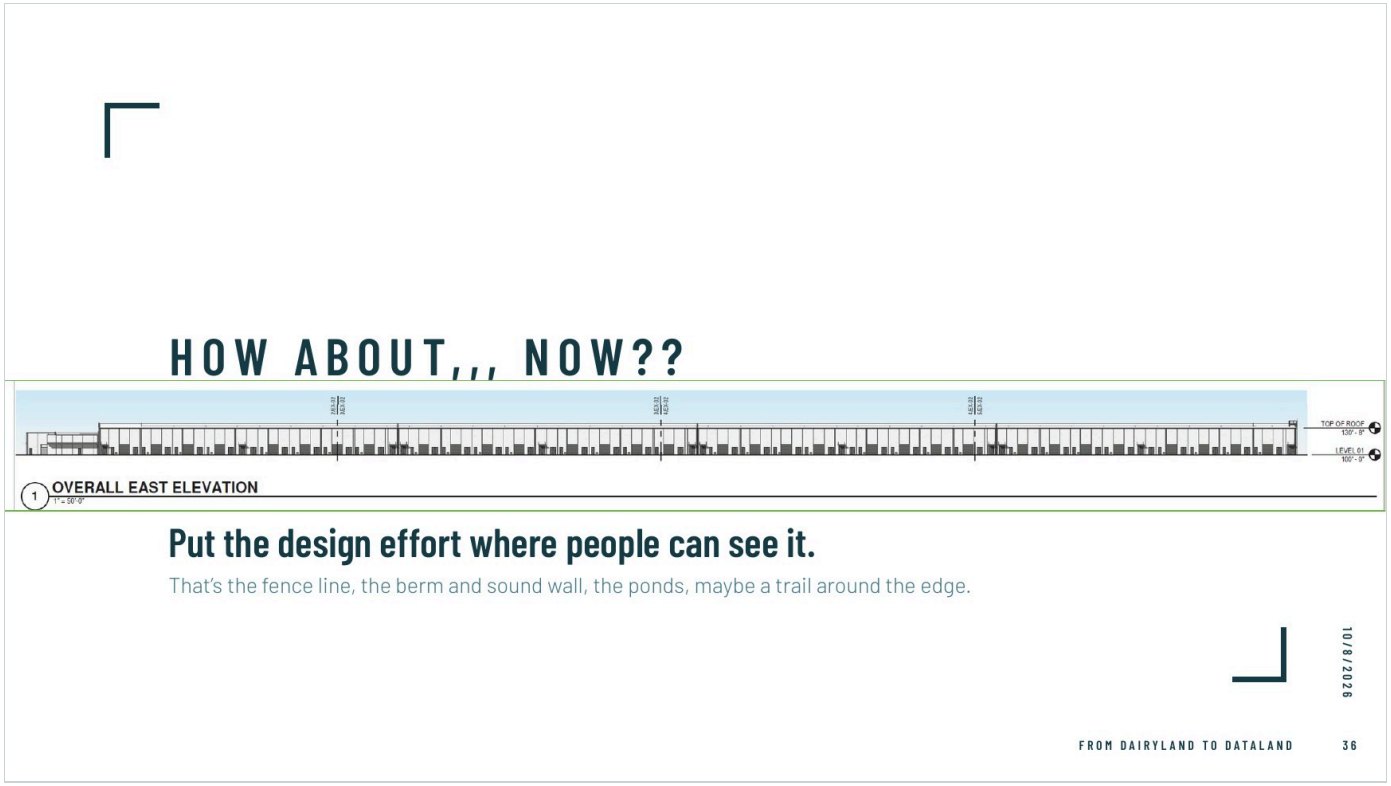
## How about now?




How about now? Hint: they’re all around you. Look at the border.

SLIDE 36

## How about,,, now??




How about now? That's an elevation for a data center. It's so nondescript you thought it was a border. That's the full east elevation of a recent building, roughly 1,600 feet long, and all those little marks are doors and openings. It's all cast concrete panels, by the way, and almost nobody will ever see it, because it'll sit behind layers of fencing, ponds and walls. It's useless to regulate that aesthetically.

Overregulating looks just triggers the variance process, and enough variances lead to "we should just do a PUD." You want to avoid that.

Put the design effort where people can see it: the fence line, the berm and sound wall, the ponds. These campuses are big enough that the outer layer can be a park with a walking or running path, and the ponds can be an amenity. Drivers and neighbors only ever see the edges.

SLIDE 37

# The rest of site plan review




The rest of site plan review, quickly.

Landscaping and screening can help a lot, but codes are often too prescriptive and not strict enough at the same time. A dense, multi-height layer of evergreens has to be about 100 feet wide to cut noise by 5 decibels.

Lighting: the LED revolution made light ridiculously cheap. The price per lumen keeps falling by about a factor of 10 every decade, so every development, especially the security-minded ones, goes overboard. Pass a dark sky ordinance.

Parking: the worst is any rule based on square footage. Our neighbor’s ratio of one space per 2,000 square feet would put 2,609 spaces, about 28 acres of parking lot, on a site plan that needs a fraction of that. Better is no minimum. Best is tying impervious surface to your landscape and stormwater rules.

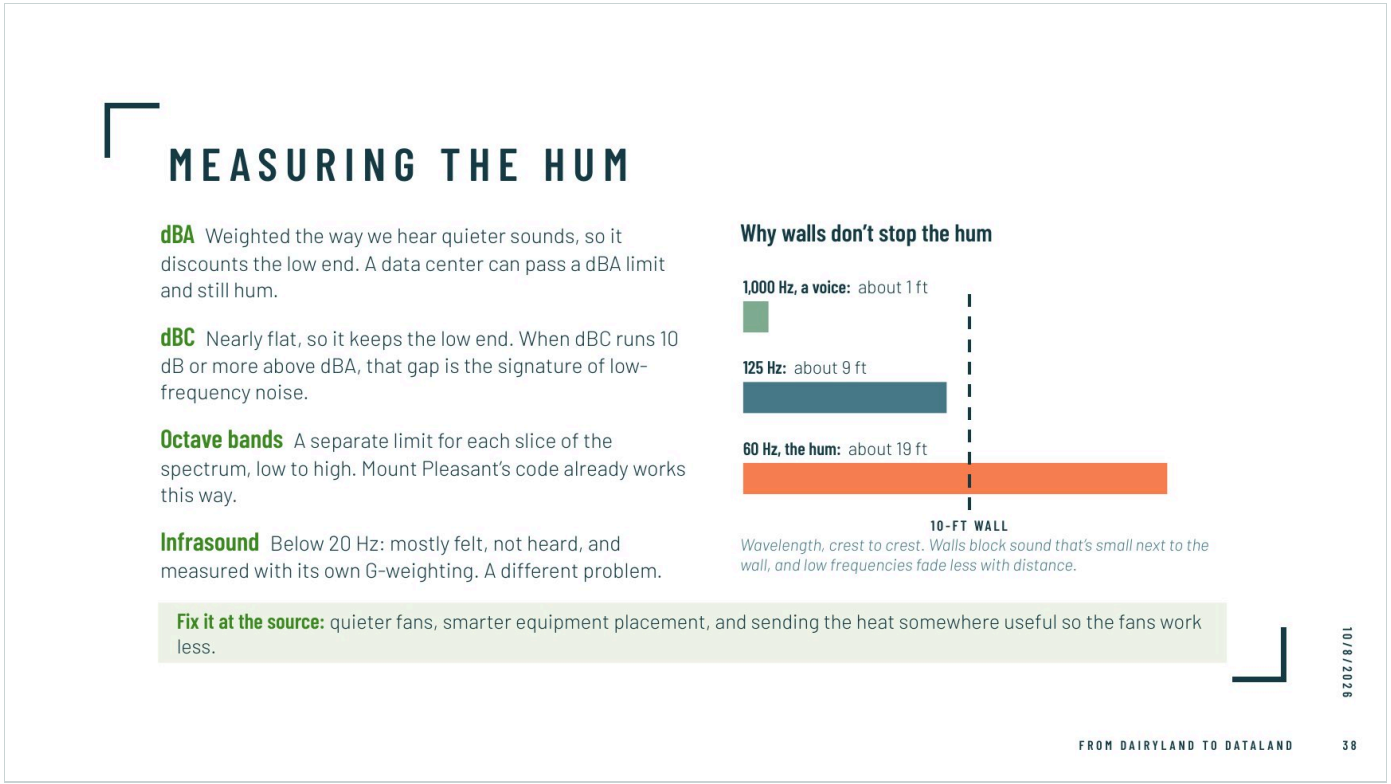
Stormwater: these campuses come with gigantic ponds, 64 acres of them in one recent approval. That’s an easy bonus win for sustainable infrastructure. A month of Fairwater’s heat would fit in a storage pit about that size (more on that at slide 50), and Florida is putting floating solar on its highway stormwater ponds. Or you get Canada geese.

## LINKS AND SOURCES

- pv magazine USA, Floating solar developer signs statewide lease on Florida highway stormwater ponds (June 2026) pv-magazine-usa.com
- Sonoma Clean Power, Healdsburg debuts the largest floating solar farm in the U.S. sonomacleanpower.org
- Solarthermalworld, Seasonal pit heat storage cost benchmark of 30 euros per cubic meter solarthermalworld.org

SLIDE 38

## Measuring the hum




A quick primer, because this is where most noise ordinances go wrong.

dBA is weighted the way our ears hear quieter sounds, so it throws away most of the low end. That's how a data center can pass a dBA limit and still hum. dBC is nearly flat, so it keeps the low end. When the dBC reading runs 10 decibels or more above the dBA reading, that gap is your low-frequency signature. Octave bands go a step further and set a separate limit for each slice of the spectrum, low to high. Mount Pleasant's code already works that way. Infrasound, below 20 hertz, is a different animal: mostly felt rather than heard, and measured with its own G-weighting. Don't let anybody blur those together.

Now walls. A sound wall works on sound that's small compared to the wall. A voice at 1,000 hertz is about a foot long, crest to crest. The 60-hertz hum is about 19 feet long, so it goes right over a 10-foot wall. Low frequencies also fade less with distance. Tom FitzGerald says the hum can still be a problem 3,000 feet out.

So the real fix is at the source: quieter fans, the loud equipment on the far side of the building, and sending the heat somewhere useful so the fans don't have to work as hard. Hold that last one.

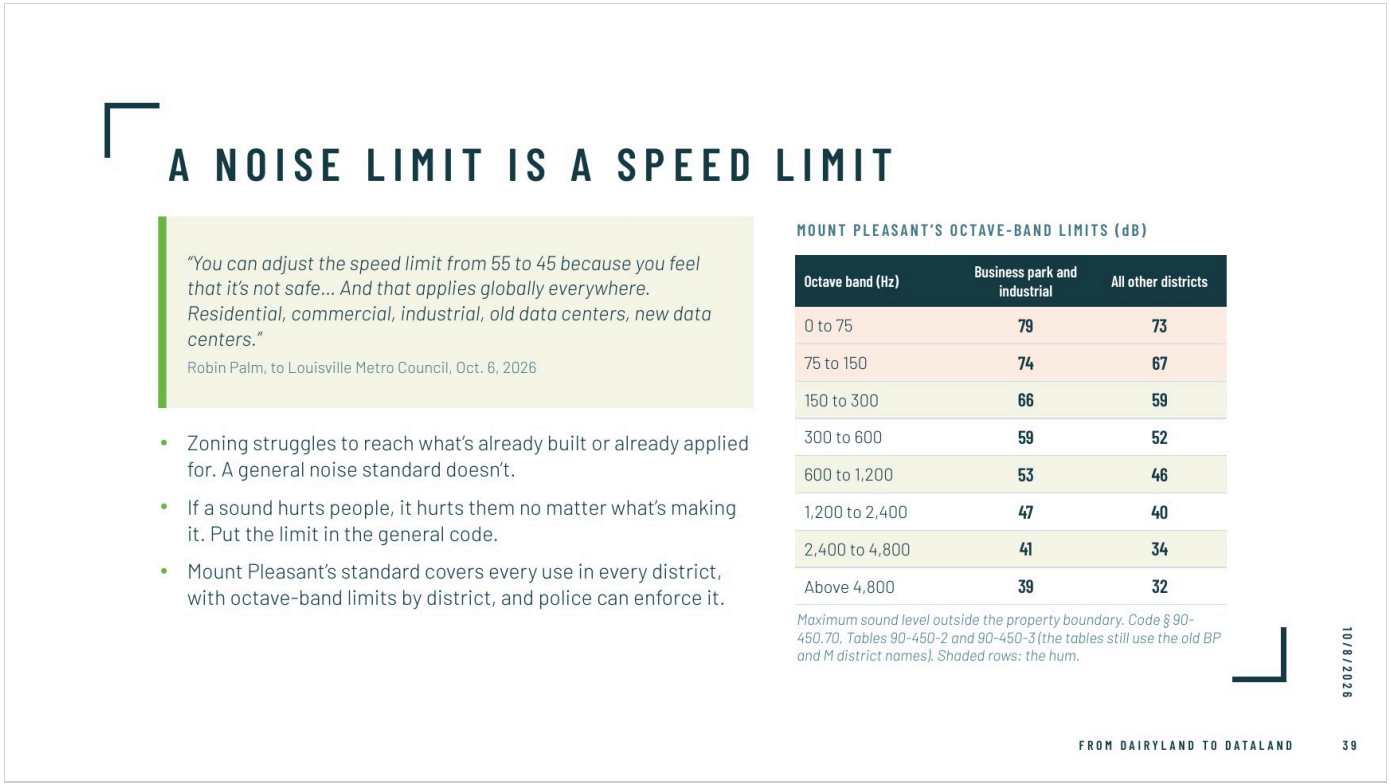
The math, if you want it: wavelength is the speed of sound, about 1,125 feet per second, divided by frequency. The KRC model ordinance notes that dBA underrepresents low-frequency noise and that cooling equipment can add 10 to 20 dB beyond the A-weighted reading.

### LINKS AND SOURCES

- Kentucky Resources Council, Model Data Center Zoning Ordinance, version 1.4 (PDF) kyrc.org
- Village of Mount Pleasant Code (Chapter 90 is zoning; noise is § 90-450.70) ecode360.com
- Public Service Commission of Wisconsin, noise measurement protocol (PDF) psc.wi.gov
- Tom FitzGerald, testimony to Louisville Metro Council's Planning and Zoning Committee, Oct. 6, 2026

SLIDE 39

# A noise limit is a speed limit




This is the answer I gave the Louisville Metro Council's Planning and Zoning Committee in October 2026, and it's the one I'd give you. Their big worry was the data centers already built or already applied for. Zoning has a hard time reaching those, because they're nonconforming or vested.

So don't use zoning for it. If a sound is harmful anywhere, it's harmful everywhere, and that's police power. Think of a noise limit like a speed limit. You can drop the speed limit from 55 to 45 because it isn't safe, and it applies to every car on the road, old or new. Same with noise: residential, commercial, industrial, old data centers, new data centers.

Ours sits in the zoning code, but it covers every use in every district, it sets a limit for each octave band at the property line, and our police department can enforce it. If you're writing one today, use the modern octave bands, the ones centered at 31.5, 63 and 125 hertz and up, so your consultant's meter reads straight into your table. Add a dBC limit for good measure, a night limit, and a compliance test after the project opens.

## LINKS AND SOURCES

- Louisville Metro Council Planning and Zoning Committee, Oct. 6, 2026 (my remarks)
- Village of Mount Pleasant Code (Chapter 90 is zoning; noise is § 90-450.70) ecode360.com

SLIDE 40

# Traffic & Accessibility




Traffic is something people always complain about. (You can pick out the Foxconn globe in the aerial.)

Permanent employee numbers can be low. Everybody says 50 jobs or so. Microsoft’s first phase is saying upward of 800, which is pretty good as far as we’re concerned.

The main design issue is connectivity versus site security. They want one large block with no roads through it, and that block can be a square mile. So make sure your comprehensive plan lays out a road network that keeps things connected.

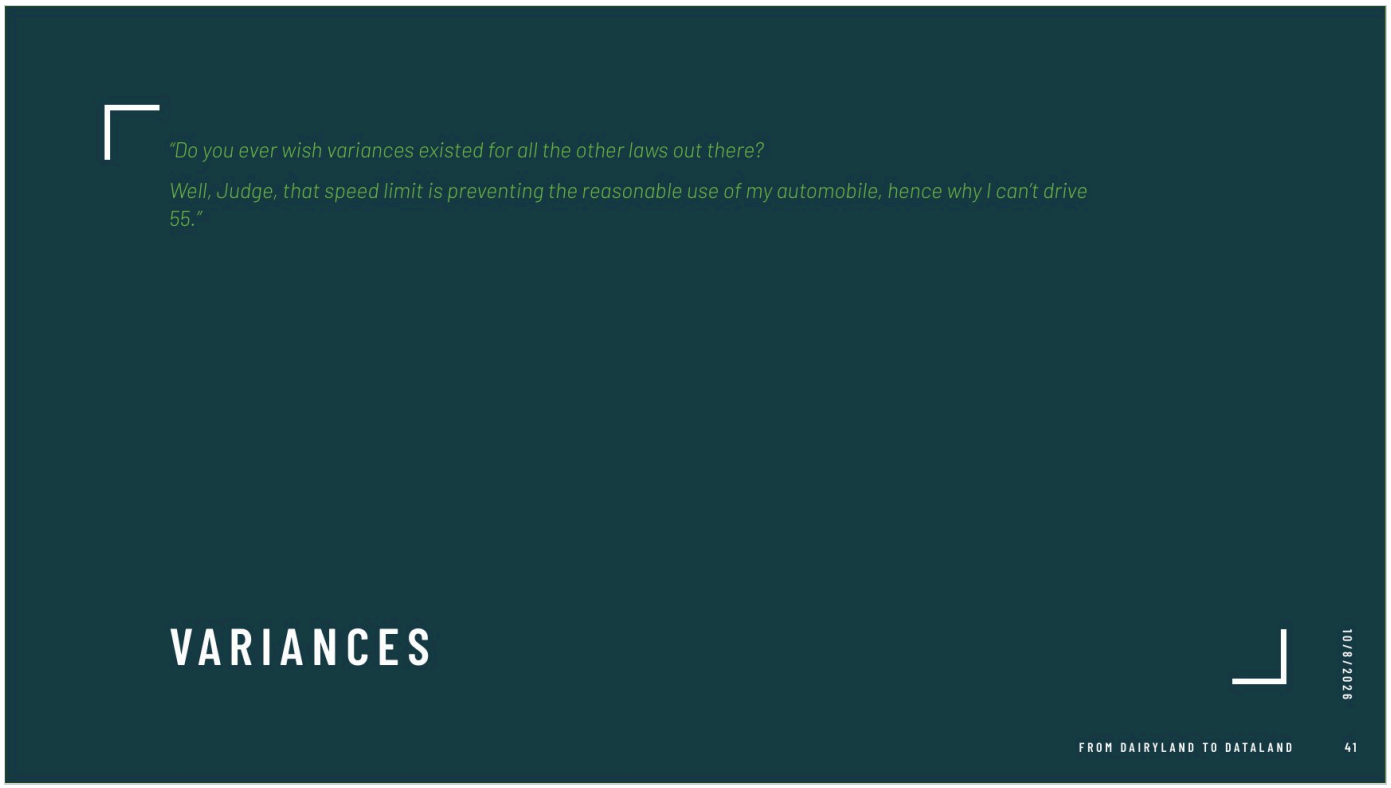
The big one, though, is construction traffic. That’s what gets everybody. Get the road terms in writing. In Cedar Rapids, two companies repaved five miles of road on a verbal request, outside the development agreement, and Linn County had to threaten to close its roads to their trucks to get road use agreements. Put haul routes and road repair in the development agreement before the first truck rolls.

## LINKS AND SOURCES

- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)

SLIDE 41

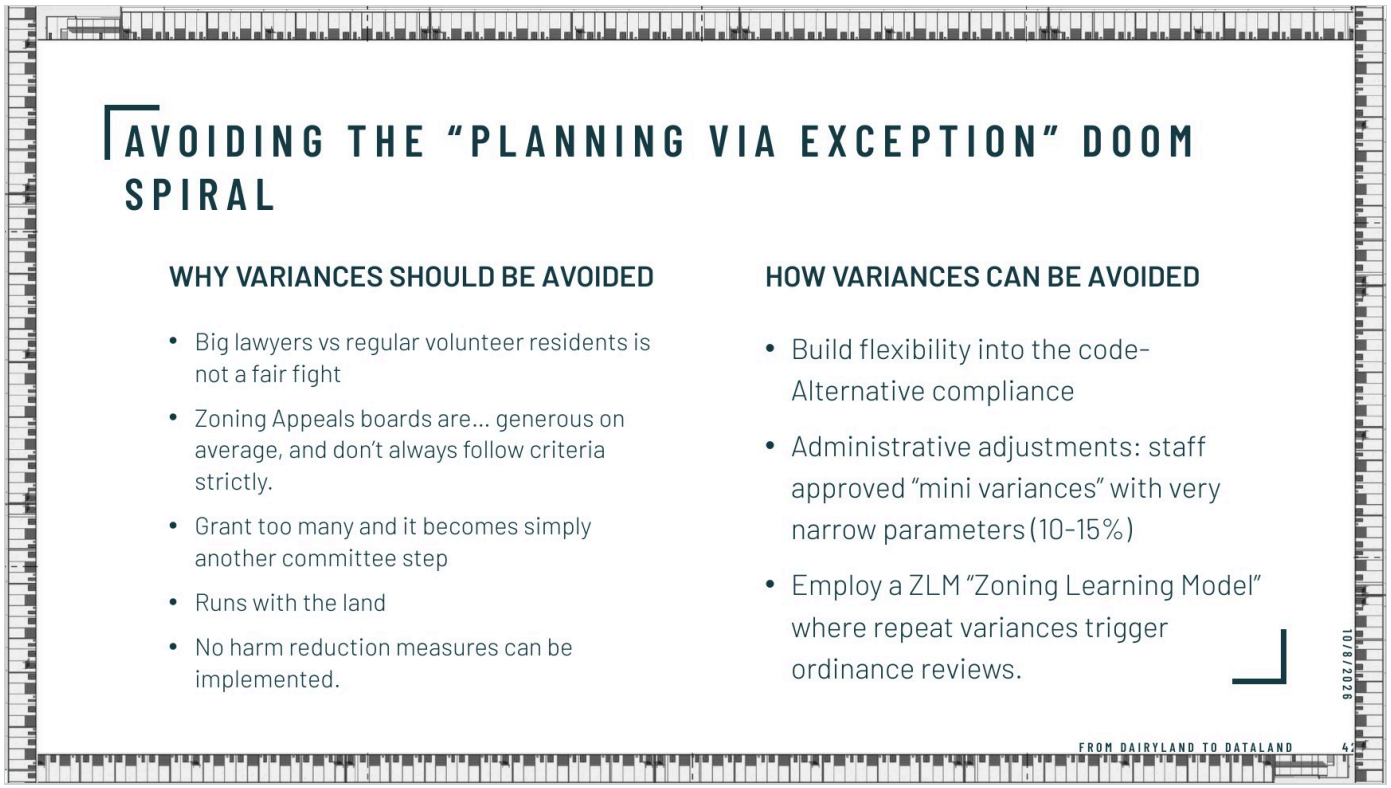
## Variances




Variances. Do you ever wish variances existed for all the other laws out there? “Well, Judge, that speed limit is preventing the reasonable use of my automobile, hence why I can’t drive 55.”

SLIDE 42

## Avoiding the “planning via exception” doom spiral



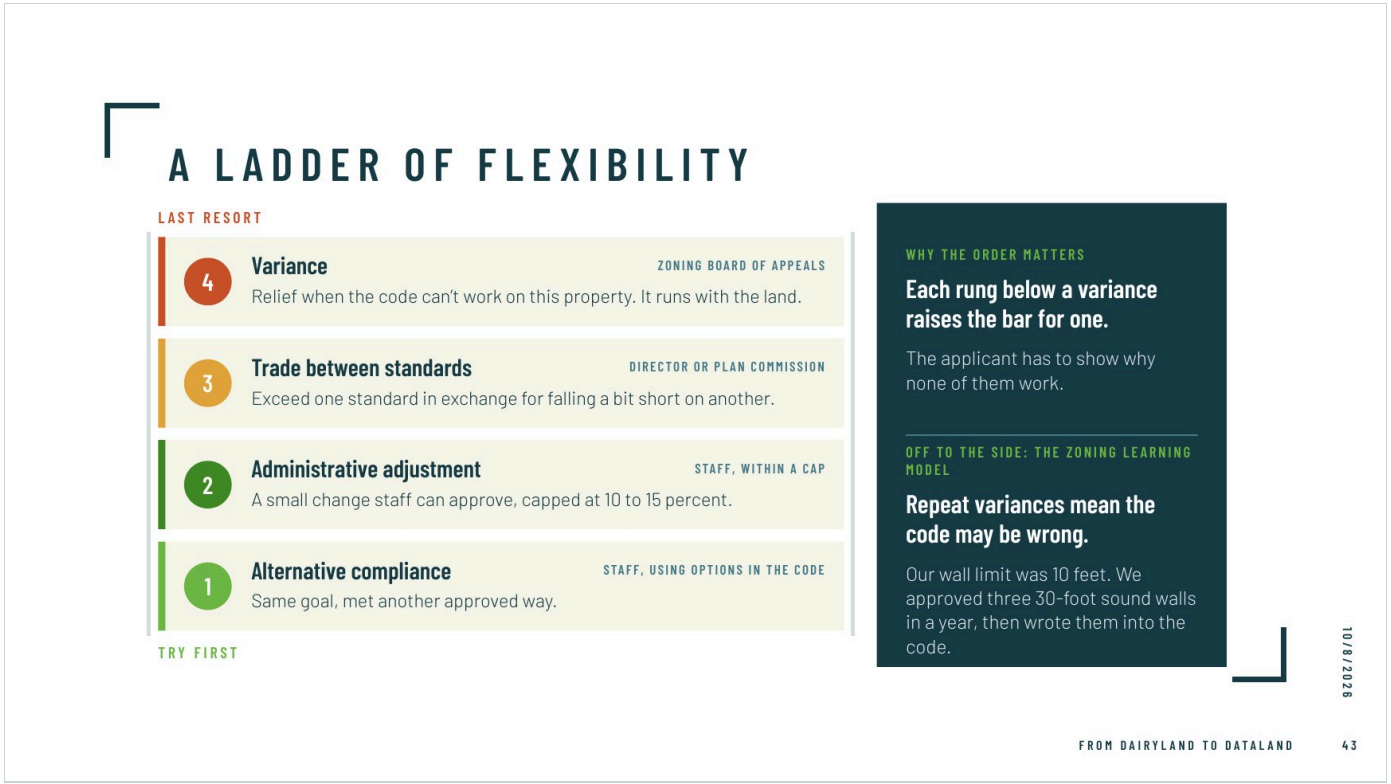

Why avoid variances? It’s big lawyers versus regular residents who volunteered for the board, and that’s not a fair fight. Zoning appeals boards are a little too generous on average and don’t always follow the criteria strictly. A variance runs with the land, forever. Grant too many and it becomes a habit, just another committee step, which isn’t how variances are supposed to work. And there’s no trading or mitigation: it’s granted or it’s not. You can’t say “we’ll grant this, but here’s what you can do to offset it.”

How to avoid them: build flexibility into the code. Alternative compliance, so if you do this thing really well, you can do that thing a little less. Administrative adjustments: staff-approved mini variances within narrow limits, like 10 to 15 percent. And a ZLM, a zoning learning model, where repeat variances automatically trigger an ordinance review.

We did this with sound walls. Our limit in industrial districts was 10 feet, and they said they needed 30. We approved three of those in about a year and said, okay, maybe we should write this into the code. So we added alternative compliance language for sound walls. Every code should have this. Otherwise you’re committing yourself to variance reviews until the end of time.

SLIDE 43

# A ladder of flexibility




Think of flexibility as a ladder, and climb it in order.

First rung, alternative compliance: the same goal, met another approved way. Staff checks it against options already written into the code.

Second rung, an administrative adjustment: a small change staff can approve, with a hard cap, like 10 to 15 percent. Keep the cap firm, so the adjustment stays an exception and doesn't quietly become the new standard.

Third rung, a trade between standards: exceed one standard in exchange for falling a bit short on another. If you do this thing really well, you can do that thing a little less. That takes judgment, so it goes to the Director or the Plan Commission, using criteria written into the code.

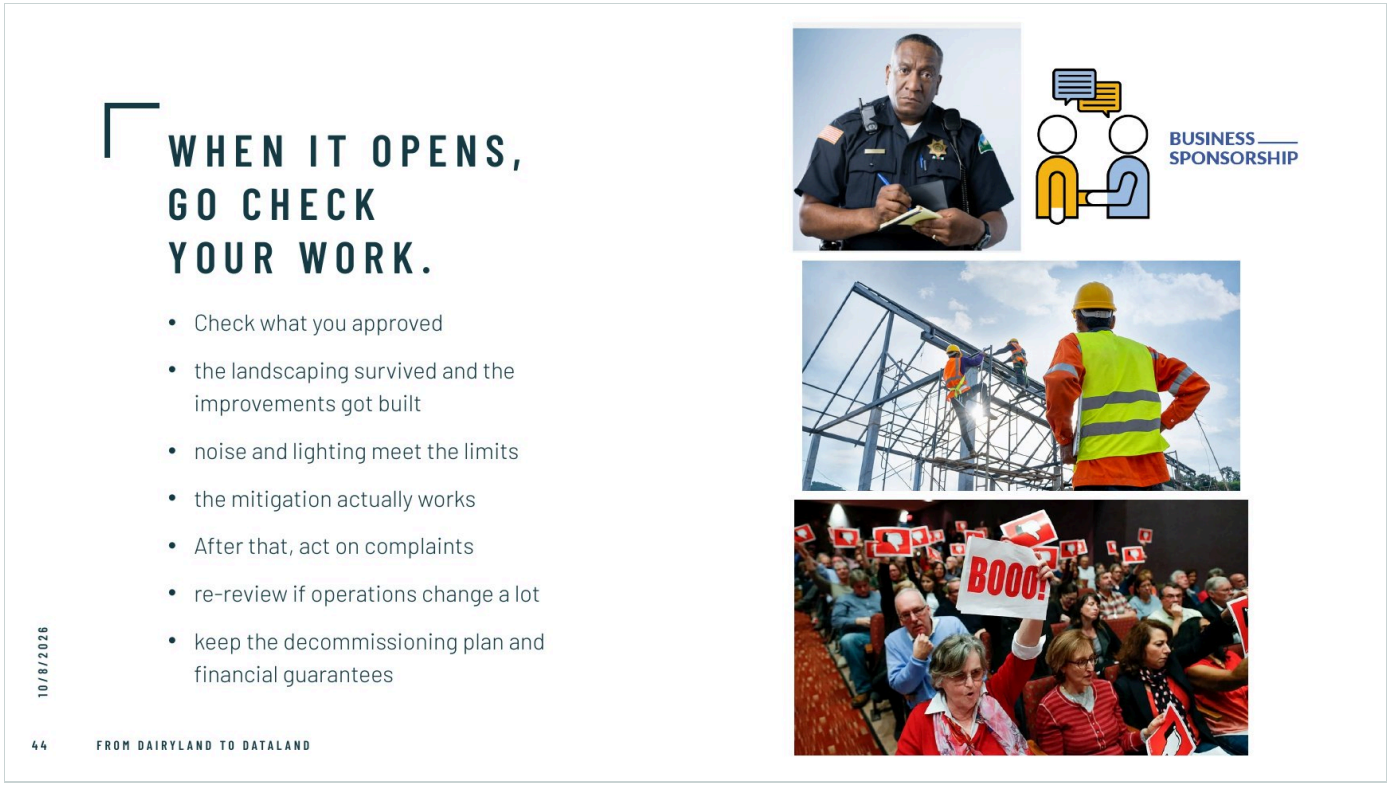
Only after all that, a variance: relief when the code really can't work on this property. It goes to the zoning board of appeals, and it runs with the land.

Every rung below a variance makes your variance standard stronger. Now an applicant has to explain why they can't meet the code as written, and why none of the alternatives work either. That's a high bar.

Off to the side is the zoning learning model: repeat variances mean the code may be wrong. Three 30-foot sound walls in a year told us our 10-foot limit was.

SLIDE 44

## When it opens, go check your work.




When it opens, go check your work. Did the landscaping survive? Did the required improvements get built? Does the operating noise comply? Does the lighting perform the way the plans said? Did the mitigation actually work?

After that, enforcement is driven by complaints and by changes. Expect complaints about sound and construction, monthly generator testing, questions about water and sewer use, and reports from the agencies that handle the things you don't. Re-review if the equipment or operations materially change. Keep the decommissioning plan and financial guarantees, like clawbacks, because these buildings won't last forever. The computer equipment turns over every few years, and cast concrete structures last maybe 30 years, 50 tops. And keep whatever reporting you deliberately negotiated in the development agreement, like a diesel phase-out.

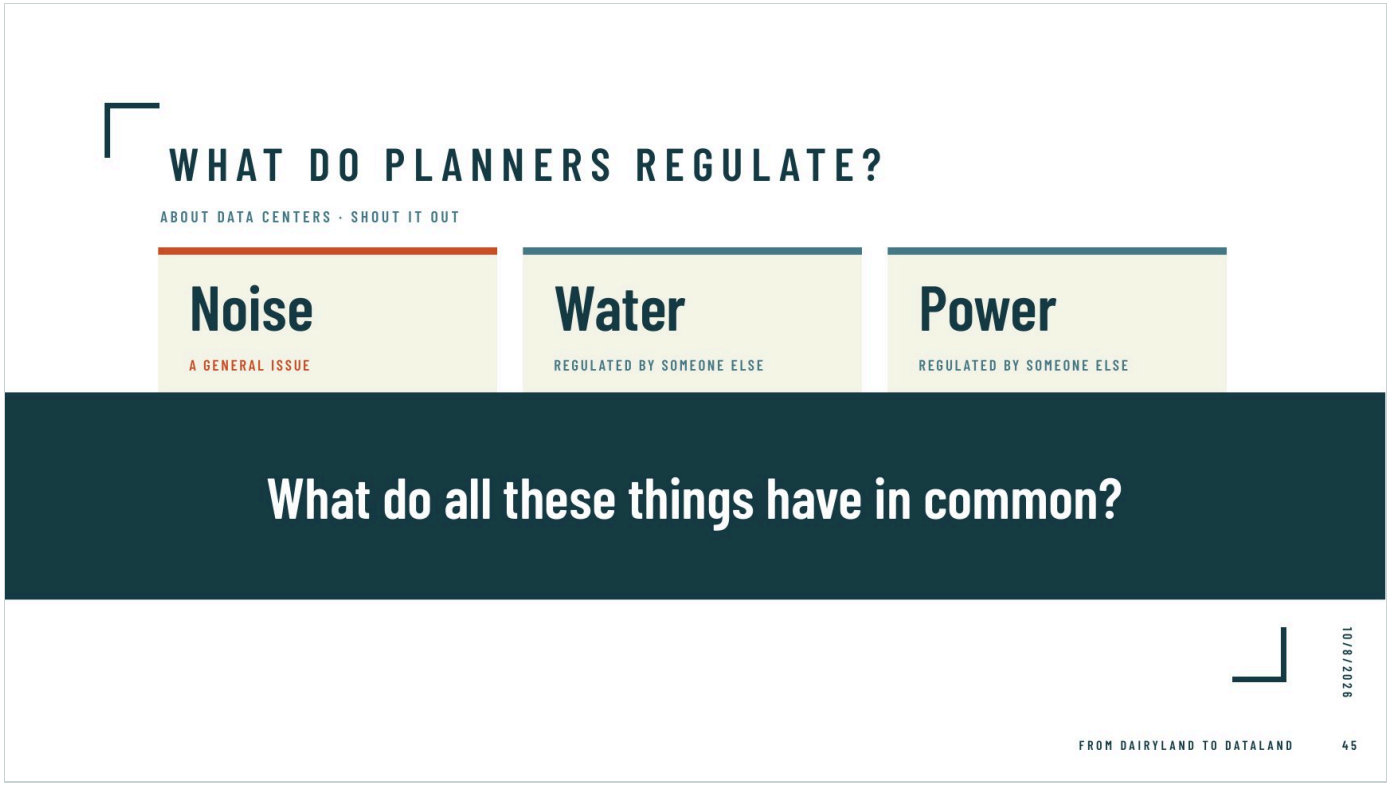
Once something's approved and you've confirmed it meets the rules, you're not sitting outside watching it like a hawk every day. So coordinate the predictable stuff up front. A contractor once called Cedar Rapids on a Tuesday wanting to flush new pipes with biocide on Wednesday. That would have killed the bacteria the city's wastewater plant depends on, so the city slowed them down. Coordinate construction discharges with the sewer utility before the first flush.

### LINKS AND SOURCES

- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)
- Kentucky Resources Council, Model Data Center Zoning Ordinance, version 1.4 (PDF) kyrc.org

SLIDE 45

## What do planners regulate?



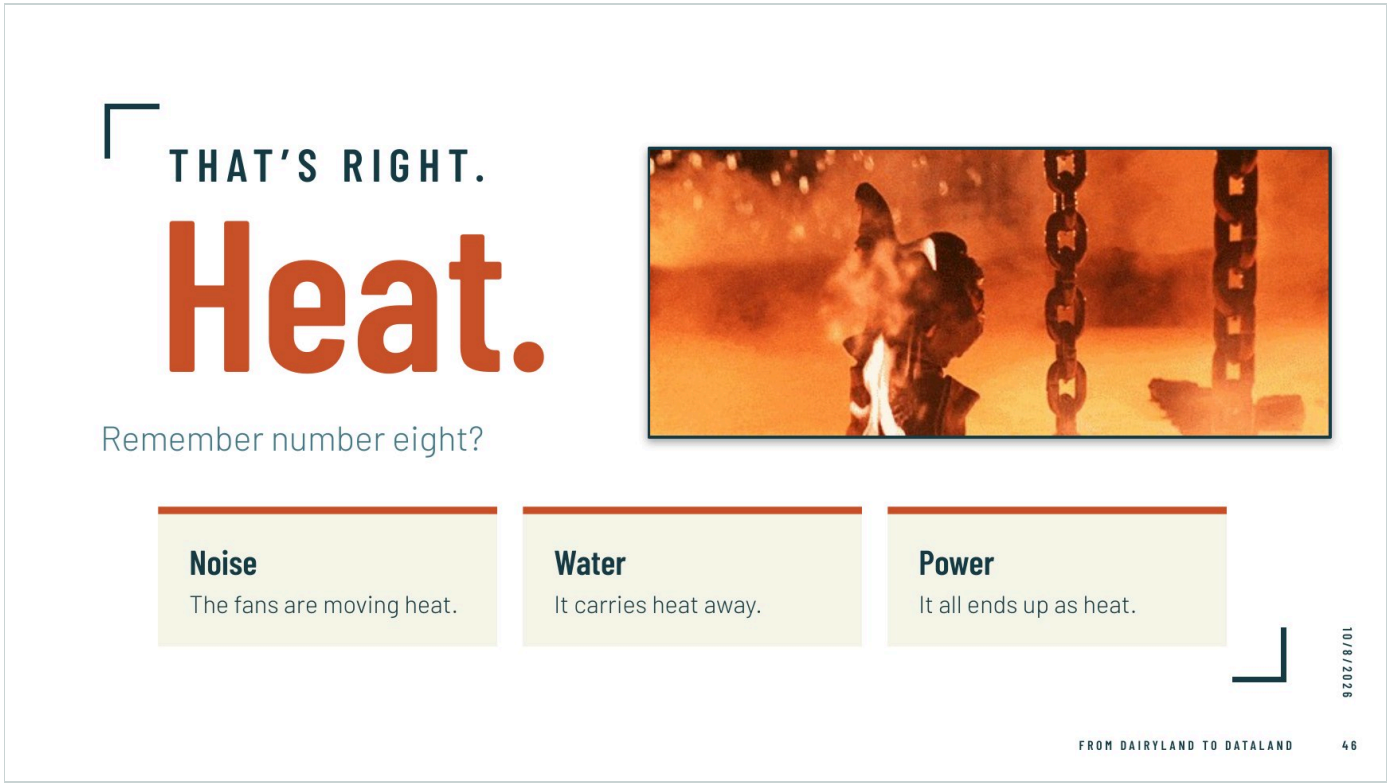

Everybody knows what zoning is: this is good here, but not there. So what do planners regulate about data centers? I asked the room to shout it out.

Noise? Yes, but it’s a general issue. A noise limit is a speed limit: one rule for every use, data centers included. Water? Yes, but someone else regulates it. The DNR handles the permits, and the PSC regulates the water utility. Power? Same. The PSC handles power and rates. Zoning can ask for their paperwork. It can’t make their decisions.

Traffic isn’t on the slide on purpose. Construction traffic is real, but every big project has it. Jobs and taxes belong in the development agreement. So what do noise, water and power have in common?

SLIDE 46

## That’s right.




That’s right. Heat.

Remember number eight: the thing most unique to data centers, and most suited to zoning, is the least talked about and least regulated. That’s heat.

The fans are loud because they’re moving heat. The water is there to carry heat away. The power goes in, and all of it comes out as heat. Noise, water and power are the same story told three ways.

And where that heat should go depends on what’s next door, which makes it a zoning question.

SLIDE 47

## Every watt becomes heat




This was my big realization this year, and the codes haven't caught up.

Every code we read treats waste heat as a nuisance to push away. Ours prohibits heat you can measure off the premises. A model ordinance going around says a data center can't raise the temperature at the property line. Another draft says point it away from the neighbors. Not one asks where it could go. Heat shows up in permits in other ways too: in Cedar Rapids, Google's evaporative cooling needed an FAA plume study and an agreement with the airport.

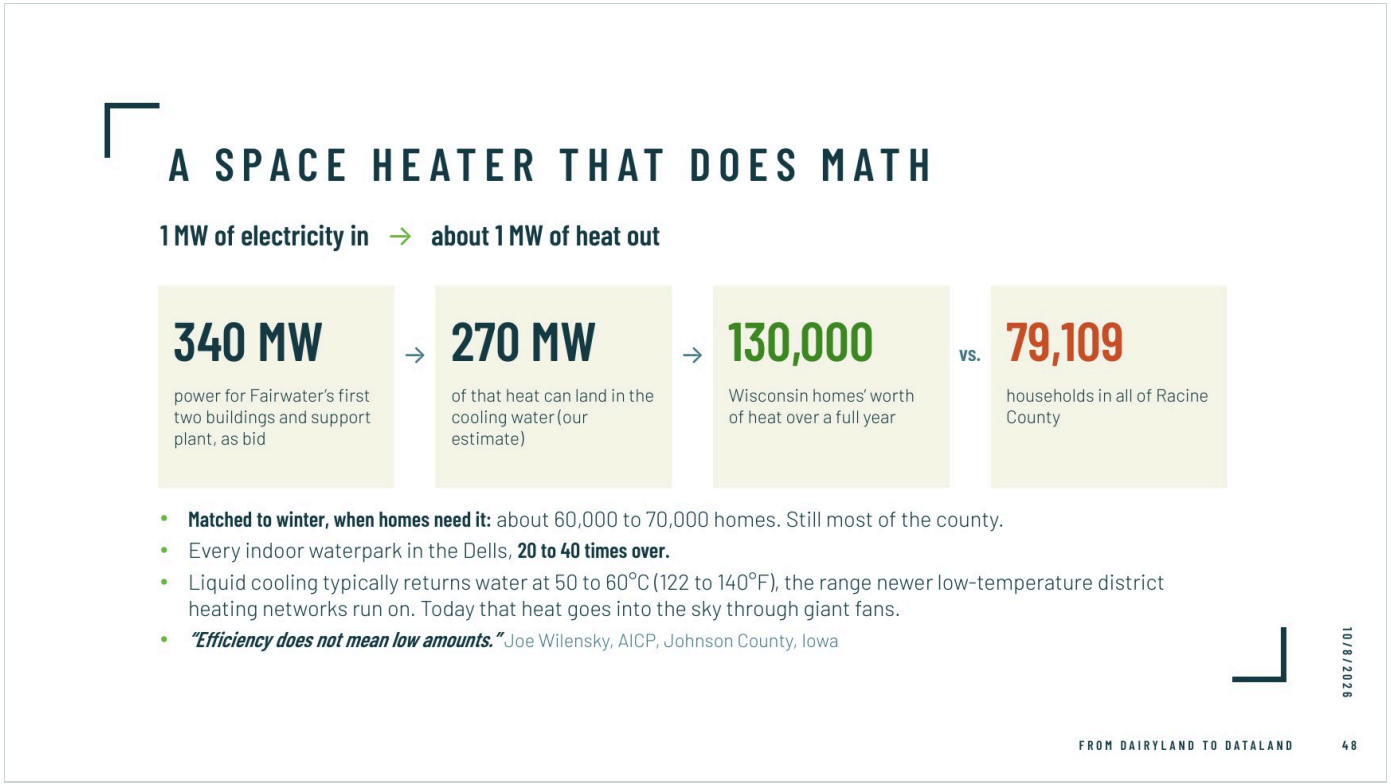
APA has written about data centers three times in 23 years: the telecom hotel report in 2002, Zoning Practice in 2022, and Zoning Practice again in October 2025. The latest says it best: all that power generates heat, and that heat has to go somewhere. Then it moves on. So let's talk about where it could go.

### LINKS AND SOURCES

- Zoning Practice, October 2025: The Physical Footprint of Artificial Intelligence (Charlie Nichols, AICP) planning.org
- Zoning Practice, June 2022: data centers (David Morley, AICP) planning.org
- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org
- Kentucky Resources Council, Model Data Center Zoning Ordinance, version 1.4 (heat is § 5.M) (PDF) kyrc.org
- Louisville Metro 25-LDC-0014, Planning Commission recommendation of Sept. 3, 2026, § 4.2.69.J (heat)
- Village of Mount Pleasant Code (heat is § 90-450.50(a)) ecode360.com
- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)

SLIDE 48

## A space heater that does math




Thermodynamics is simple here: every watt a data center uses comes out as heat. It's a space heater that also does computing. Put your hand on the back of your computer. Now put a few million of them in one building.

Fairwater's first two buildings and their support plant were bid at about 340 megawatts. We estimate about 270 megawatts of that heat lands in the cooling water. Over a full year, that's the heating needs of about 130,000 Wisconsin homes. But homes need heat in winter, not July. Match it to winter and it's more like 60,000 to 70,000 homes. I'm discounting my own big number on purpose, and it's still most of Racine County, which has about 79,000 to 80,000 households. And for the Dells fans: that heat could warm every indoor waterpark in the Dells 20 to 40 times over.

This water comes off the chips hot. Liquid cooling typically returns it at 50 to 60 degrees Celsius, 122 to 140 Fahrenheit, right in the range newer low-temperature district heating networks run on. Today that heat goes into the sky through giant fans. A Cedar Rapids official described a closed-loop data center as essentially a giant radiator. And Joe Wilensky, a planner in Johnson County, Iowa, put it best: efficiency does not mean low amounts. An efficient data center still turns every watt into heat.

Are we going to warm up Lake Michigan? Point Beach has been putting 2 gigawatts or more of waste heat into Lake Michigan since the early 1970s, enough today to heat about four in ten Wisconsin homes. Wasting heat is the normal thing. Using it is what's new.

Heat reuse is also a water strategy. A wet cooling tower evaporates up to roughly 10,000 gallons a day for each megawatt of heat it rejects, so every 100 megawatts of heat piped to customers instead saves up to about a million gallons a day.

How the numbers work: the 340 megawatts is the December 2023 bidding notice for the first two buildings plus support plant, about 337.6 MW. We assume 80 percent of the heat lands in the cooling water, about 270 MW. If only half of the 340 MW were captured, about 170 MW, that's still about 83,000 homes on an annual basis. A Wisconsin home needs about 18 megawatt hours of heat a year (We Energies' benchmark home; an EIA-derived range of 16.8 to 19.5). The winter-matched

60,000 to 70,000 is our seasonal case. The Dells comparison assumes 57,000 to 109,000 MWh of heat a year for about 800,000 square feet of indoor parks. Racine County households: 79,109 in the Census 2019 to 2023 estimate, 80,406 in 2020 to 2024. Microsoft doesn't publish Fairwater's actual draw, so these are estimates, and Microsoft's own framing puts its whole first phase at about 400 megawatts, roughly 7.5 percent of We Energies' peak capacity.

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#### LINKS AND SOURCES

- Fairwater's first two buildings plus support plant: December 2023 bidding notice, about 337.6 MW
- Microsoft, Infinite scale: the architecture behind the Azure AI superfactory (Nov. 2025) blogs.microsoft.com
- U.S. Census QuickFacts, Racine County, Wisconsin census.gov
- Point Beach Nuclear Plant (overview) en.wikipedia.org
- APA Iowa Chapter webinar, Zoning for Data Centers, Jan. 15, 2026 (Bill Micheel, Cedar Rapids; Laura Berkley, Davenport; Joe Wilensky, Johnson County)

SLIDE 49

## Humans are already doing this




People hear this and think I'm describing an invention. I'm not. Every system on this slide is running today, or, in Espoo's case, starting to take data center heat in 2027.

Holland, Michigan has melted the snow off its downtown streets and sidewalks with power plant waste heat since 1988. It's the largest publicly owned snowmelt system in North America. We Energies already runs a steam heat system in downtown Milwaukee, serving hundreds of customers, with rates set by our own PSC. That's a regulated heat utility 25 miles up the road.

And Toronto is the one cool example here, literally. Since 2004 it has cooled more than 100 downtown buildings with water pulled from deep in Lake Ontario, about 4 degrees Celsius, and that same water then goes on to the city's taps.

Denmark made heat planning a municipal job in 1979, and today 64 percent of Danish households are on district heat. From data centers specifically: in Odense, heat from Meta's data center, boosted by Fjernvarme Fyn's heat pump plant, is enough to heat about 11,000 homes. In Espoo, Finland, Microsoft's data centers will cover about 40 percent of the heat demand for 250,000 district heat users.

For scale: Fairwater's first two buildings, at roughly 270 megawatts of recoverable heat, are already in Espoo's league. The only new part would be putting the proven pieces together, here, in Wisconsin.

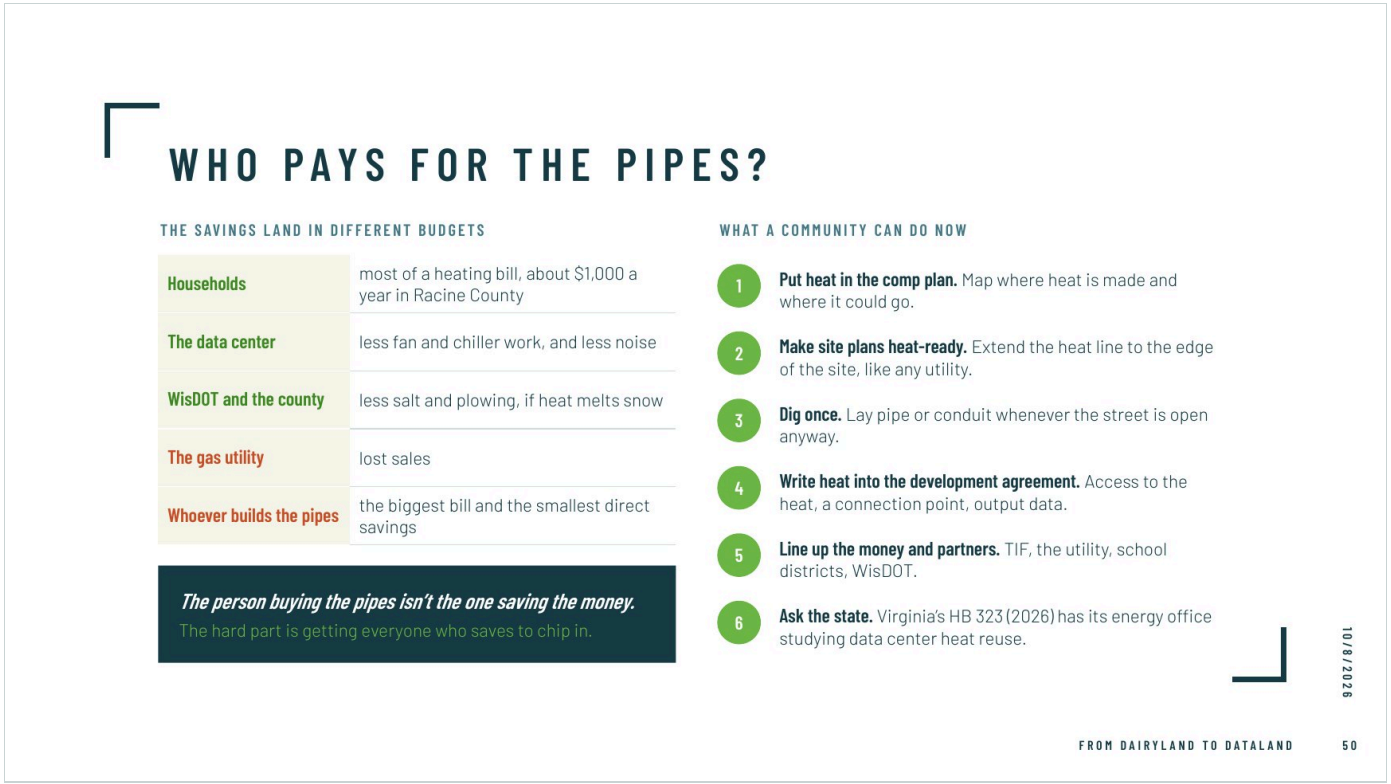
More examples: Helsinki heats and cools with heat pulled from treated wastewater. And Haiyang, China heats its city with 1,134 megawatts of nuclear plant heat, covering nearly 13 million square meters of floor space. The full Mount Pleasant campus would put out about that much heat.

### LINKS AND SOURCES

- City of Holland, Michigan, Snowmelt System cityofholland.com
- We Energies, District Energy (downtown Milwaukee steam) we-energies.com
- BizTimes, PSC rejects downtown steam rate hike biztimes.com
- Enwave, Enwave and Toronto Water tap into an innovative energy source (Deep Lake Water Cooling) enwave.com
- Danish District Heating Association, The Danish district heating model danskfjernvarme.dk
- TechRadar, this Danish data center is heating thousands of homes (Meta, Odense; Sept. 2026) techradar.com
- Ramboll, Meta: surplus heat to district heating (Odense) ramboll.com
- City of Espoo, Microsoft and Fortum collaborate in Espoo (March 2022) espoo.fi
- Fortum, Fortum and Microsoft announce the world’s largest collaboration to heat homes with data center waste heat fortum.com
- Helen (Helsinki), Waste heat plays a significant role in a sustainable energy system helen.fi
- World Nuclear News, China’s first commercial nuclear district heating scheme expands (Nov. 2024) world-nuclear-news.org

SLIDE 50

## Who pays for the pipes?




So why isn't everybody doing this? Because of who pays and who saves. Households would save most of a heating bill. In Racine County that's about a thousand dollars a year, and it matters most to the households that can least afford it. The data center saves fan and chiller work, and noise. WisDOT and the county save salt and plow time if some of that heat melts snow. The gas utility loses sales. And whoever builds the pipes pays the most and saves the least on its own books.

It saves a lot of money. It just doesn't save it for whoever would have to pay for it. The engineering is the easy part. The hard part is getting everyone who saves to chip in. Denmark solved it in 1979 by making heat planning a municipal job, so one entity holds the whole ledger. Steph Speirs calls it a governance problem, and so do I. If someone tells you a cooling tower or a battery park is cheaper: cheap depends on where you draw the fence. Each party optimizes its own side, and the best answer for the whole system sits in the gap between them, where nobody's budget line lives.

Here's where heat becomes a siting question. Two sites can both have enough land, power and road access. If one sits next to a hospital, housing, greenhouses or an industrial heat user, and the other is isolated, they aren't equivalent sites anymore. That's a land use distinction, and it's the cleanest answer I have to what about data centers is actually planning.

What can you do Monday morning? Put heat in your comp plan: map where it's made and where it could go. Make site plans heat-ready: extend the heat line to the edge of the site, just like water, sewer, sidewalks or conduit. A connection point, a reserved corridor, the public frontage. For a project above a set amount of recoverable heat, the developer can say yes, or show the heat data that says it doesn't pencil. Dig once: Holland laid its snowmelt pipes while downtown was torn up anyway, and Dublin, Ohio did the same for fiber. Write heat into the development agreement while you still have leverage: access to the heat, a connection point, output data. Line up the money and partners you already have, like TIF, the utility, school districts and WisDOT. And talk to your legislators. Virginia passed HB 323 in 2026, directing its energy office to study data center waste heat with a work group. It's a study, not a mandate, but it's a start.

Storage is what makes the heat usable. The data center makes heat all year; homes want it in winter. Danish towns store summer heat in big insulated pits of water. A month of Fairwater's heat would need a pit of roughly 60 to 65 acres, 50 feet

deep, about the size of the 64 acres of stormwater ponds on our January site plan. At Danish prices that's on the order of $100 million: small next to a multibillion dollar campus, big next to a village budget. A whole season would take about 400 acres, so the realistic pitch is weeks, not seasons. Weeks still matter, because storage carries the system through cold snaps, so the pipes don't have to be sized for the coldest night.

The household figure is about $1,059 a year on average across fuels in Racine County, our own calculation from Census and EIA data. The storage sizing is our estimate, scaled from Danish pit storage at Vojens and Dronninglund.

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#### LINKS AND SOURCES

- Virginia Mercury, Data center bills dominated this year's General Assembly: here's what passed (March 2026) virginiamercury.com
- Danish District Heating Association, The Danish district heating model danskfjernvarme.dk
- City of Holland, Michigan, Snowmelt System cityofholland.com
- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org
- Solarthermalworld, Seasonal pit heat storage cost benchmark of 30 euros per cubic meter solarthermalworld.org
- New Atlas, Varanto seasonal thermal energy storage in Finland newatlas.com
- Steph Speirs, in conversation with Elle Cordova

SLIDE 51

## Conclusion: a planner checklist




Five questions to take home.

Where is the real yes or no, and has it already happened? (See slides 14, 28 and 29.)

Which harms are general harms? Regulate them everywhere. (See slides 38 and 39.)

Can staff measure and enforce what we wrote? (See slides 20 and 23.)

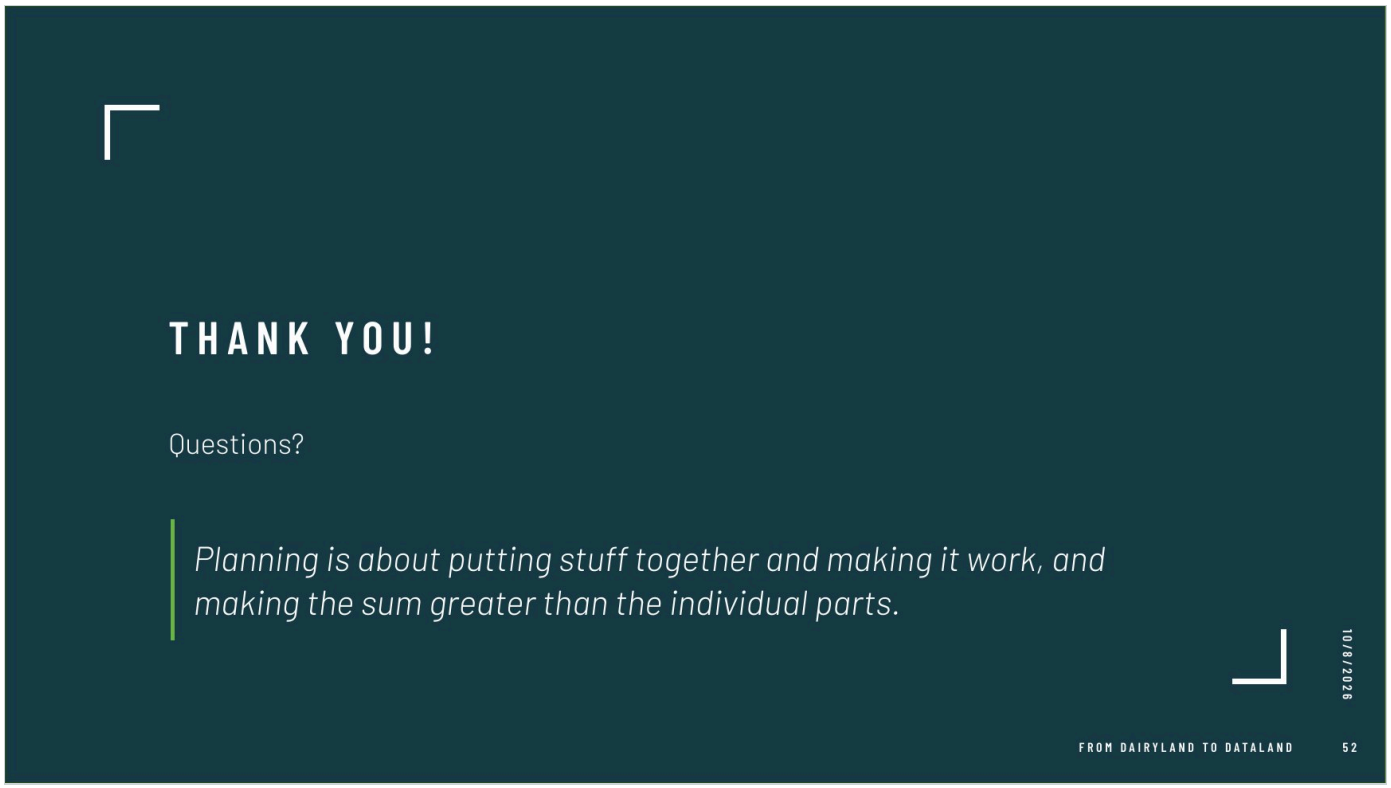
What belongs in zoning, what belongs in the development agreement, and what belongs to another agency? (See slides 13, 27 and 53.)

And the last one. What is the noise? What is the power use? What is the water use? It all boils down to heat. So: where will the heat go? (See slides 47 to 50.)

The long version of the checklist is in the backup slides (see slide 54).

SLIDE 52

## Thank you!




Planning is about putting stuff together and making it work, and making the sum greater than the individual parts. Thank you.

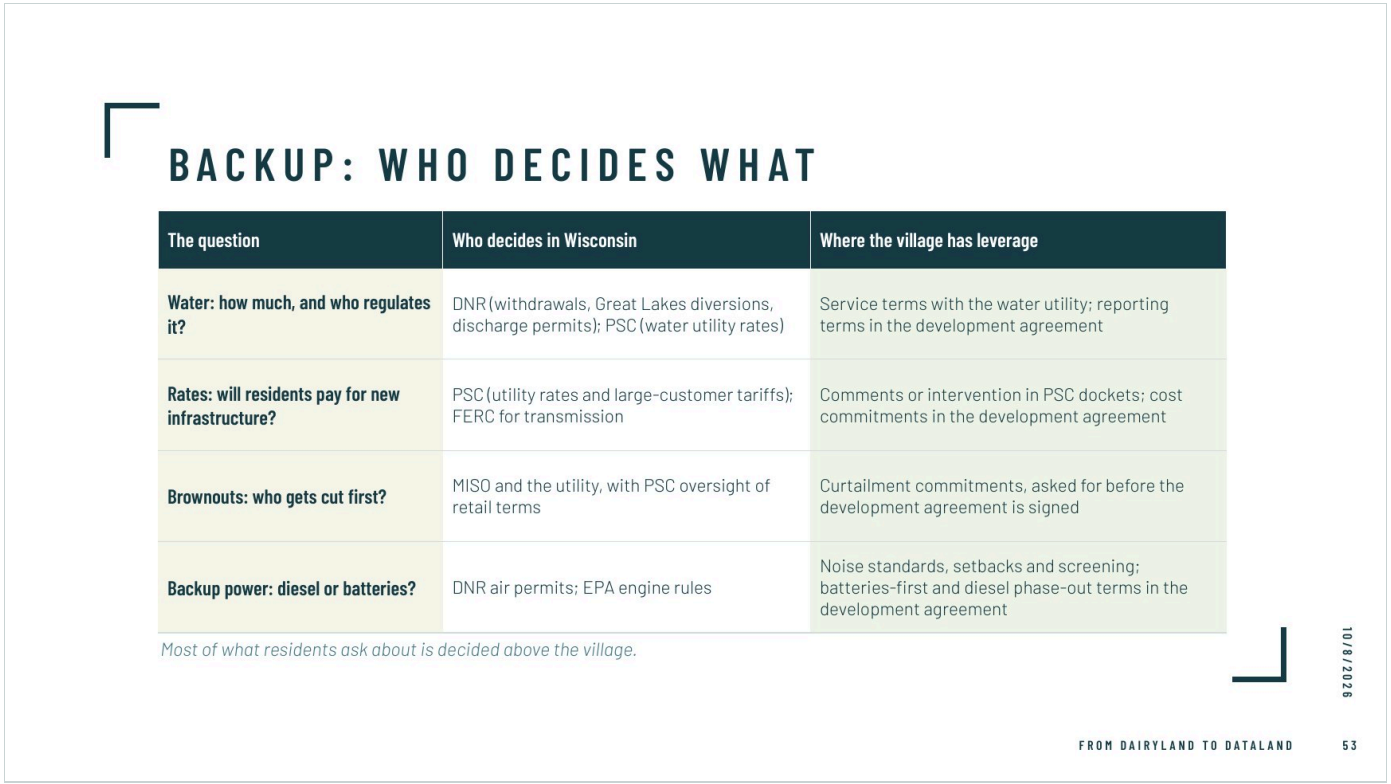
Several people asked for a reading list, so here's where I'd start. The APA pieces cover the planning side, from telecom hotels in 2002 to AI data centers in 2025, plus battery storage. The Kentucky model and the Louisville draft are the most detailed codes I've read, including the parts I'd skip. The Act 67 explainer and the PSC's data center page are the Wisconsin ground rules. And the last four are the district energy examples: Denmark, Espoo, Holland and Toronto.

### LINKS AND SOURCES

- APA PAS Report 505, Telecom Hotels: A Planners Guide (Jennifer Evans-Cowley, 2002) planning.org
- Zoning Practice, June 2022: data centers (David Morley, AICP) planning.org
- Zoning Practice, October 2025: The Physical Footprint of Artificial Intelligence (Charlie Nichols, AICP) planning.org
- Zoning Practice, March 2024: Battery Storage (Great Plains Institute) planning.org
- Kentucky Resources Council, Model Data Center Zoning Ordinance, version 1.4 (PDF) kyrc.org
- Louisville Metro, 25-LDC-0014 data center amendments, July 23, 2026 draft (PDF) louisvilleky.gov
- UW-Madison Extension, Conditional Uses After Act 67 (PDF) fyi.extension.wisc.edu
- Public Service Commission of Wisconsin, The PSC and Data Centers psc.wi.gov
- Danish District Heating Association, The Danish district heating model danskfjernvarme.dk
- City of Espoo, Microsoft and Fortum collaborate in Espoo (March 2022) espoo.fi
- City of Holland, Michigan, Snowmelt System cityofholland.com
- Enwave, Enwave and Toronto Water tap into an innovative energy source (Deep Lake Water Cooling) enwave.com

SLIDE 53

## Backup: who decides what




Most of what residents ask about is decided above the village. These are the big questions our April webinar audience asked, sorted by who decides them in Wisconsin and where a village still has leverage.

Water: on-site use at a closed-loop campus is the small number. Racine's projections for the campus top out around 700,000 gallons a day at full build-out, and the annual figures reported for the closed-loop buildings are 2.8 to 8.4 million gallons a year. Both fit inside the 7 million gallon a day Lake Michigan diversion DNR approved in 2018. When you quote the annual numbers, say "a year, not a day."

Rates: the PSC settled generation in April 2026. Transmission is still being fought at FERC, where ATC expects to spend more than $500 million connecting the campus.

Brownouts: MISO and the utility decide who gets cut first. The local ask, before signing: will the project accept being cut back during shortages, and will its generators run during grid emergencies? When the PSC rewrote the tariff in April, Commissioner Marcus Hawkins credited the "large and loud engagement" of intervenors and the public. Showing up works.

Backup power: DNR had permitted 79 diesel generators at the campus as of late 2024, with about 150 more proposed. DNR says it can't require cleaner fuel. Microsoft's own goal of ending diesel use by 2030 makes batteries-first a fair development agreement ask.

Some diesel math: big campuses keep a day or two of fuel on site. A big generator burns about 70 gallons an hour for every megawatt it carries, so a 300 megawatt campus running on diesel needs around 60 tanker deliveries a day. Parked nose to tail, that's about a mile of trucks, every day, until the grid comes back. Those are rules of thumb, not Microsoft's design, and Microsoft expects its generators here to run under 24 hours a year on average, for testing and emergencies. The trend is away from diesel: one industry executive says new projects now cover only 15 to 40 percent of their load with generators, and batteries go in almost everywhere. Microsoft's Fairwater site in Atlanta skipped generators and UPS for its GPUs entirely, because the grid there is very reliable.

Batteries versus diesel: batteries compete for the first two to four hours. For a day or two, diesel still wins on cost. Pumped hydro needs a big drop and about a decade to build; it competes by making the regional grid more reliable, and that's a utility and PSC call.

Public money: say "no new local incentives," not "no incentives." Wisconsin's data center sales tax exemption covers backup generators, fuel storage and batteries, plus the electricity itself. It cost the state about $70 million in its first two years. That's the legislature's lane.

A code gap worth fixing: a four-hour battery for 300 megawatts is about 1.2 gigawatt hours, roughly two thousand times the 600 kilowatt hour mark where NFPA 855's full fire requirements start. Most codes, ours included, don't define battery storage yet. Fix that before one shows up labeled as accessory equipment. And fuel on site is already public: the federal Tier II chemical inventory is filed every year by March 1 with the state, the county emergency planning committee and the fire department.

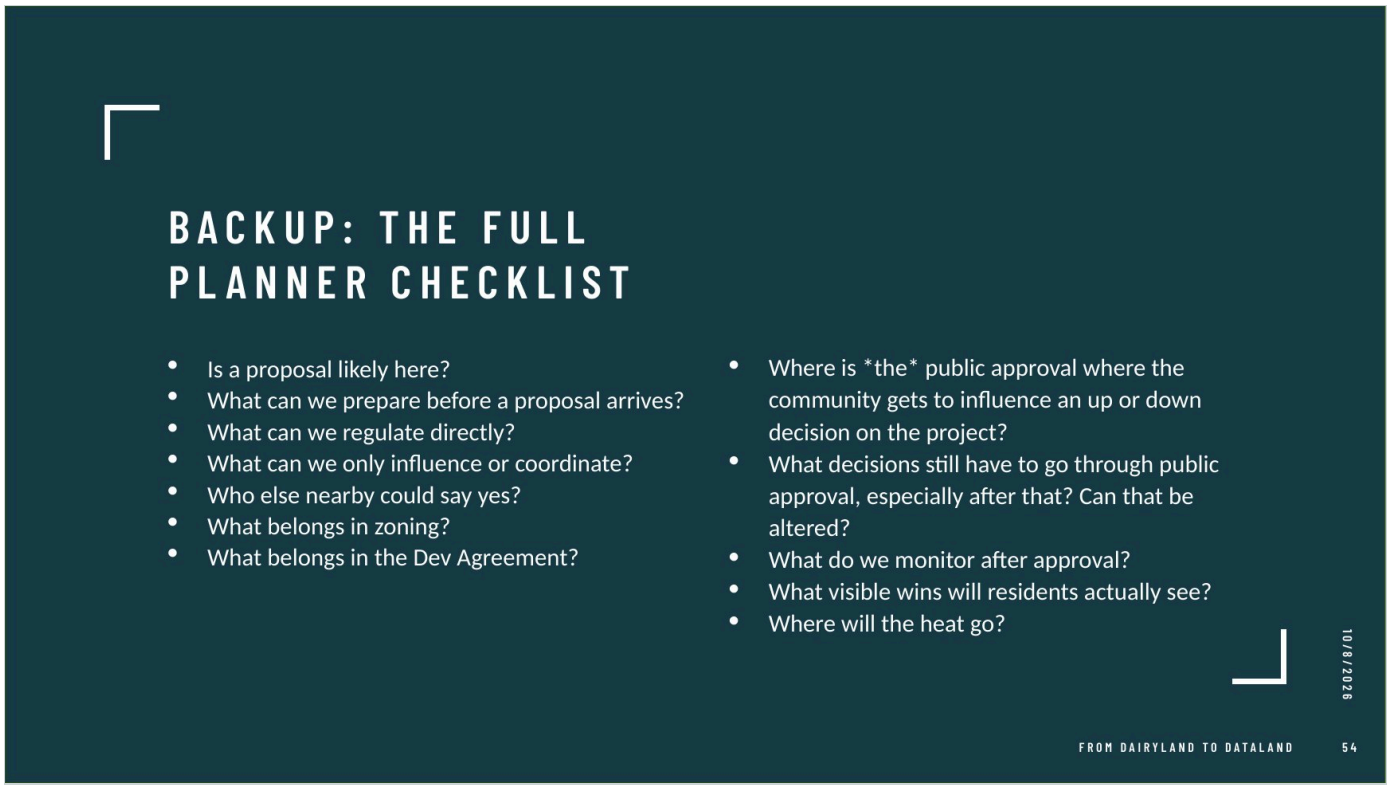
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#### LINKS AND SOURCES

- Public Service Commission of Wisconsin, The PSC and Data Centers psc.wi.gov
- Data Center Knowledge, Wisconsin's Data Center Tariff Signals a New Regulatory Baseline datacenterknowledge.com
- WPR, Microsoft to use diesel-fired generators as backup power for data centers (Nov. 2024) wpr.org
- Microsoft Azure, Progress on our commitment to sustainable backup power in datacenters by 2030 azure.microsoft.com
- DCD, Microsoft launches Atlanta Fairwater data center with no UPS or generator sets datacenterdynamics.com
- ESS News, Data center power shifts favor batteries and solid-state transformers (July 2026) ess-news.com
- Latitude Media, The data center boom is a diesel generator boom latitudemedia.com
- Uptime Institute Journal, fuel system design and reliability journal.uptimeinstitute.com
- NREL Annual Technology Baseline 2024, pumped storage hydropower atb.nrel.gov
- Wisconsin Department of Revenue, qualified data center sales tax exemption (PDF) revenue.wi.gov
- Zoning Practice, March 2024: Battery Storage (Great Plains Institute) planning.org
- Water, rates and generator figures: WPR reporting (Sept. 2025, Nov. 2024, May 2026) and the PSC's April 24, 2026 order

SLIDE 54

## Backup: the full planner checklist




The long version of the checklist, with where each question comes up in the deck.

Is a proposal likely here? Land, infrastructure, water, a cold climate (see slides 9 and 10).

What can we prepare before a proposal arrives? (See slides 12, 14, 16 to 19 and 21.)

What can we regulate directly, and what can we only influence or coordinate? (See slides 13 and 53.)

Who else nearby could say yes? (See slide 22.)

What belongs in zoning, and what belongs in the development agreement? (See slides 18, 19, 24 and 27.)

Where is THE public approval, the up or down decision on the project? (See slides 14, 28 and 29.)

What still has to go through public approval after that, and can that be changed? (See slides 19, 25, 42 and 43.)

What do we monitor after approval? (See slide 44.)

What visible wins will residents actually see? The edges of the site, the ponds and trails, and anything you negotiated up front (see slides 27, 36 and 37).

Where will the heat go? (See slides 47 to 50.)